2020 Linking Tahoe: Regional Transportation Plan & Sustainable Communities Strategy

Initial Study – Mitigated Negative Declaration/
Initial Environmental Checklist – Mitigated Finding of No Significant Effect

prepared by

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Executive Summary

This document is an Initial Study and an Initial Environmental Checklist (IS/IEC) analyzing the potential environmental effects of the Tahoe Regional Planning Agency (TRPA) proposed 2020 Linking Tahoe: Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS). An IS is a preliminary environmental analysis used by the lead agency to determine whether an Environmental Impact Report (EIR), a Mitigated Negative Declaration (MND), or a Negative Declaration is required for a project under California Environmental Quality Act (CEQA) Guidelines. An IEC is a preliminary environmental analysis used to determine whether an Environmental Impact Statement (EIS), a Mitigated Finding of No Significant Effect, or a Finding of Significant Effect (FONSE) is required for a project under TRPA guidelines. This IS/IEC contains an introduction, project description, identification of environmental effects by checklist, explanation of environmental effects, and discussion of mitigation for significant environmental effects.

This document includes an IS-MND, prepared pursuant to CEQA. California Public Resources Code (PRC), Section 21000 et seq. The CEQA lead agency for this project is TRPA as the California Metropolitan Planning Organization for the region. This document also includes an IEC/FONSE determination pursuant to the requirements of Article VI of the TRPA Rules of Procedures and Chapter 3 of the TRPA Code of Ordinances. TRPA serves as the lead agency pursuant to its own regulations.

Project Synopsis

Project Description

The 2020 RTP/SCS is the transportation element of the Lake Tahoe Regional Plan. Every four years, TRPA prepares a regional transportation plan that outlines the overall vision for developing, operating, and maintaining the Lake Tahoe Region transportation system. This 2020 RTP/SCS builds from the 2017 RTP/SCS to offer creative strategies that offset transportation impacts, including micro-mobility strategies such as e-bikes and e-scooters and new or enhanced inter-regional transit service.

Goals and Policies

The 2020 RTP/SCS goals carry over from the 2017 RTP/SCS and are organized around addressing the local community and Tahoe visitor's transportation needs while they meet State and federal planning and reporting requirements. For the 2020 RTP/SCS update, six new policies were added and existing policies reframed for clarity. A full description of the policy changes in the form of a crosswalk comparison can be found in Appendix A. The 2020 RTP/SCS Goals are as follows:

1. **Environment:** Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas (GHG) emissions.
2. **Connectivity:** Enhance and sustain the connectivity and accessibility of the Tahoe transportation system, across and between modes, communities, and neighboring regions, for people and goods.
3. **Safety:** Increase safety and security for all users of Tahoe's transportation system.

4. **Operations and Congestion Management:** Provide an efficient transportation network through coordinated operations, system management, technology, and monitoring.
5. **Economic Vitality and Quality of Life:** Support the economic vitality of the Tahoe Region to enable a diverse workforce, sustainable environment, and quality experience for both residents and visitors.
6. **System Preservation:** Provide for the preservation of the existing transportation system through maintenance activities that support climate resiliency, water quality, and safety.

Policies have been updated in response to new plans implemented since the 2017 RTP/SCS update, to meet federal and State requirements, and for consistency with local planning efforts. Policies support active transportation and connections between recreational access areas; prioritize an integrated transit system, and collaboration with regional and interregional partners. They make efficient use of the existing network through technology, monitoring, increasing safety, and supporting the economic growth and vitality of the Plan Area.

New policies were included to reflect state requirements including California State Bill 375, the Americans with Disabilities Act (ADA), and Transit Priority Zones, as well as incentivizing new travel modes such as micro transit, on-demand mobility services, and the use of electric assisted devices. Senate Bill (SB) 375 set regional targets for reducing GHG emissions by using the regional transportation planning process.

The goals and policies concepts described above were presented to the public and stakeholders, and input from these groups was incorporated into the development of the 2020 RTP/SCS update.

Summary of Impacts and Mitigation Measures

This document examines the environmental consequences of the 2020 RTP/SCS, which updates the 2012 RTP/SCS and the 2017 RTP/SCS. The analysis contained in this IS/IEC relies largely on the analysis prepared in the 2012 RTP/SCS EIR/EIS and 2017 IS/IEC. As discussed throughout this document, many of the environmental issue areas (i.e., agricultural resources, mineral resources, and population and housing) would have less than significant impacts, similar to findings in the 2012 and 2017 environmental analyses. Other environmental issues areas (i.e., biological resources, cultural resources, hydrology and water quality, and geology and soils) would have potential impacts that would be reduced to less than significant with mitigation from the 2012 RTP/SCS EIR/EIS, as included in Appendix B. For those environmental issue areas where the regulatory environment has changed (i.e., air quality, GHG emissions, noise, and transportation), a detailed analysis concludes that mitigation contained in the 2012 RTP/SCS EIR/EIS would be sufficient to reduce impacts for all issues areas, to a less than significant level. Since adoption of the 2017 RTP/SCS IS/IEC in 2017, the *CEQA Guidelines* have been updated to include two new issues areas, Energy and Wildfire. This document includes a detailed analysis of both energy and wildfire impacts, though it should be noted that both those issues were addressed in some manner in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC. Impacts for these two environmental issue areas were determined to be less than significant and no additional mitigation would be required.

1 Introduction

This IS/IEC was prepared in accordance with the *CEQA Guidelines* and the TRPA Guidelines and serves as an IS-MND and IEC-FONSI for the 2020 RTP/SCS.

1.1 Project Background

For designated metropolitan areas to receive federal transportation project funding, federal law requires preparation of a long-range transportation plan, coordinated with air quality statutory requirements, that demonstrates conformity to air quality goals established by a state implementation plan. Federal requirements for the development of an RTP are implemented by the federally designated Metropolitan Planning Organization (MPO); in the Lake Tahoe Region, TRPA acts as the Tahoe Metropolitan Planning Organization (TMPO). California law also requires preparation of RTPs as part of the funding process for transportation projects. The RTP is an action-oriented document used to achieve a coordinated and balanced regional transportation system.

In addition to its role as part of the Lake Tahoe Regional Plan, the RTP addresses the federal and state transportation planning laws and regulations. The State of California designated TRPA as the Regional Transportation Planning Agency in 1984 for the California side of the Lake Tahoe Region. In 1999 the U.S. Congress designated TRPA as the MPO for the entire Lake Tahoe Region. At this point, TRPA assumed federal and state transportation planning responsibilities and authorities. The TMPO is responsible for approval of the RTP, which addresses transportation strategies for the entire region consistent with federal law. Therefore, while the RTP remains an element of the comprehensive Lake Tahoe Regional Plan, it has been produced and is periodically updated as a stand-alone plan, in keeping with its multiple purposes and authorities.

TRPA has the responsibility to update the Sustainable Communities Strategy (SCS) as part of the RTP update, pursuant to the requirements of California SB 375 as adopted in 2008. The SCS sets forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, is intended to reduce GHG emissions from passenger vehicles and light trucks, to achieve the regional GHG reduction targets set by the California Air Resources Board (CARB).

2012 Mobility 2035 RTP/SCS (2012 RTP/SCS)

The TRPA Governing Board and TMPO Governing Board approved an update to the RTP/SCS on December 12, 2012 in conjunction with the 2012 Regional Plan Update. Mobility 2035 included a SCS in accordance with SB 375 (Sustainable Communities and Climate Protection Act). The SCS demonstrated how integrated transportation, land use, and housing strategies would help the Lake Tahoe region meet environmental thresholds and GHG targets for cars and light trucks on the California side of the Lake Tahoe Basin.

An EIR/EIS was prepared for the 2012 Mobility 2035 RTP/SCS for CEQA and NEPA compliance. The 2012 RTP/SCS consisted of a land use scenario, a transportation strategy package, and a constrained project list.

2017 Linking Tahoe 2040 RTP/SCS (2017 RTP/SCS)

The 2017 RTP/SCS updated the 2012 RTP/SCS by identifying the projects, policies, and programs planned for implementation in the Lake Tahoe region through 2040, as compared to those identified in the Mobility 2035 RTP, which has a planning horizon of 2035. The TRPA Governing Board approved the 2017 RTP/SCS and IS/IEC on April 26, 2017. The vision, goals, and policies in the 2017 RTP/SCS were based on the vision, goals, and policies developed for the 2012 RTP/SCS, while drawing from supportive plans such as the 2016 Active Transportation Plan, the 2014 Intelligent Transportation Systems Plan, the draft 2017 Long Range Transit Plan, and local jurisdiction area plans and draft corridor plans.

2020 Linking Tahoe: Regional Transportation Plan/Sustainable Communities Strategy

The 2020 RTP/SCS provides an update to the 2017 RTP/SCS through limited changes to projects and programs for implementation in the Plan Area through 2045, as compared to a planning horizon of 2040 with the 2017 RTP/SCS. This update builds substantially from the 2017 RTP/SCS and includes updated strategies to reduce GHG emissions and vehicle miles traveled, including but not limited to, new transit services, new transportation demand management strategies, and new mobility technologies. This update also utilizes updated travel demand model inputs and outputs, including new socioeconomic, travel behavior, and other related data updates and associated model forecast outputs. TRPA has also focused on corridor planning, including State Route (Route) 28 and the Emerald Bay Corridor.

Following the adoption of the 2017 RTP/SCS, the Lake Tahoe Bi-State Working Group on Transportation convened public agency and private sector representatives from TRPA, California, and Nevada to address transportation planning challenges in the Plan Area. This bi-state group endorsed public-private pilot projects to evaluate new transportation technologies. It also evaluated funding options for transit, corridor planning, micro transit pilot projects, and created the 10-Year Action Plan. Additional accomplishments and progress since the 2017 RTP include an update to the Active Transportation Plan, the approval of a Tahoe Safety Strategy, and an update of the Public Participation Plan.

1.2 Document Organization

This document examines the environmental effects of the 2020 RTP/SCS, which updates the 2017 RTP/SCS adopted in April 2017. This environmental analysis relies largely on the analysis prepared under the joint program EIR and EIS that evaluated the environmental effects associated with the adoption and implementation of the 2012 RTP/SCS and the IS/IEC prepared for the 2017 RTP/SCS.

This IS/IEC has been prepared to reflect minor updates to projects, and/or TRPA, state, or federal standards that have changed the regulatory framework from the 2017 RTP/SCS to the 2020 RTP/SCS. For impact topic areas, a simple checklist is provided that refers to the relevant 2012 RTP EIS/EIR sections and mitigation measures. A complete list of mitigation measures required for the 2012 RTP/SCS and 2017 RTP/SCS EIR/EIS is contained in Appendix B.

Once a program CEQA document has been prepared, subsequent activities under the program must be evaluated to determine what, if any, additional CEQA documentation needs to be prepared. If the program CEQA document addresses the program's effects as specifically and comprehensively as possible, many subsequent activities could be found to be in the EIR/EIS and IS/IEC scope and

additional environmental documents may not be required (CEQA Guidelines Section 15168(c)). When a program CEQA document is relied upon for a subsequent activity, the Lead Agency must incorporate feasible mitigation measures developed in the CEQA document into the subsequent activities (CEQA Guidelines Section 15168(c)(3)). If a subsequent activity would have effects not addressed in the EIR/EIS or IS/IEC, the Lead Agency must prepare a new environmental document specific to the project. In this case, the IS/IEC still serves a valuable purpose as the third-tier environmental analysis as it tiers off the 2017 RTP/SCS IS/IEC and 2012 RTP/SCS EIR/EIS.

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2 Project Description

2.1 Project Title

2020 Linking Tahoe: Regional Transportation Plan & Sustainable Communities Strategy
(2020 RTP/SCS)

2.2 Contact Person and Phone Number

Rebecca Cremeen
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2.3 Lead Agency Name and Address

Tahoe Regional Planning Agency
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2.4 Project Location

The Plan Area is in the Lake Tahoe Metropolitan Planning Area Boundary and includes areas of El Dorado and Alpine counties, and South Lake Tahoe in California, and Washoe and Douglas counties and Carson City in Nevada. The Plan Area consists of approximately 325,000 acres, of which approximately 123,000 acres are the surface of Lake Tahoe. Figure 1 shows the Plan Area. Lake Tahoe's exceptional clarity is the focus of local environmental regulations.

The Lake Tahoe Region has a robust transportation system that includes local and regional highway networks; public and private fixed route transit, shuttles; demand response services; general aviation transportation via the South Lake Tahoe Airport; and commercial airlines service from Reno Tahoe International Airport in Reno, Nevada. Roadway access to the region is made up of seven access points with a chain of state highway segments surrounding the lake. On the north shore, from Placer County to Washoe Tahoe Area Regional Transit (TART) provides public transit, operated by Placer County. The Tahoe Transportation District (TTD) provides transit service on the south shore between South Lake Tahoe, Douglas County and Carson City, which includes fixed route and demand response transit. TTD also provides service in Washoe County between Incline Village and Sand Harbor in the summer months. Airport shuttle operations include the North Lake Tahoe Express and the South Tahoe Express, providing shuttle services to the Reno-Tahoe International Airport.

Portions of the region are serviced by bicycle facilities, including several long segments of separated, Class I, shared use trails. Class II and III bicycle facilities can be found in the condensed development areas of South Lake Tahoe, Incline Village, Tahoe Vista, and Tahoe City.

Private waterborne excursion and charter services provide cruising opportunities on the lake. Seasonal trolleys, ski and rafting shuttle services, special event shuttle services, and other services can be found throughout the region, funded by a combination of public and private funds.

Figure 1 Plan Area

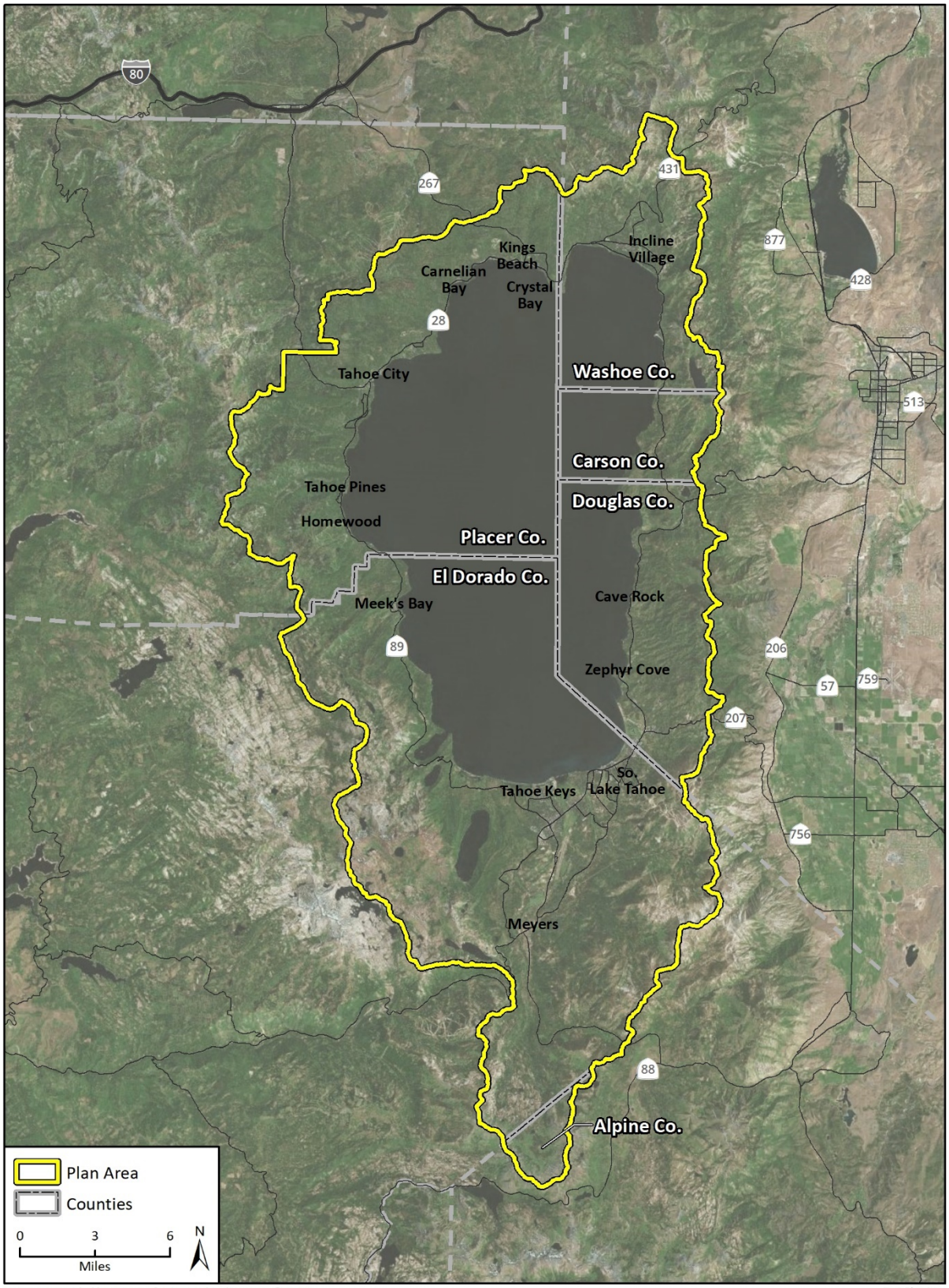

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Fig 1 Plan Area

2.5 Project Objectives

The Tahoe Regional Planning Agency operates as the federally designated MPO for the Lake Tahoe Basin and the Tahoe Metropolitan Planning Organization (TMPO). As such, State law requires the TRPA to prepare a long-range (at least 20-year) transportation planning document, known as an RTP, which is an action-oriented document used to achieve a coordinated and balanced regional transportation system. This section summarizes the RTP's objectives and responsibilities, as informed by relevant legislation.

TRPA also has the responsibility to update its SCS as part of the RTP update, pursuant to the requirements of California SB 375 as adopted in 2008. The California Transportation Commission's (CTC) document *2010 California Regional Transportation Plan Guidelines* serves as the guidance for RTP development. Under both federal and State law, TRPA must update its RTP every four years.[1]

Sustainable Communities & Climate Protection Act Requirements (SB 375) Requirements

The Sustainable Communities Strategy and Climate Protection Act, SB 375, is codified in California Government Code, Sections 14522.1, 14522.2, 65080.01, 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588; PRC Sections 2161.3, 21155, 21159.28. It is a California law passed in 2008 that requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the State. It also creates requirements for the CTC and CARB. Some of these include the following:

- The CTC must maintain guidelines for the travel demand models that MPOs develop for use in the preparation of their RTPs.
- CARB must develop regional GHG emission reduction targets for automobiles and light trucks for 2020 and 2035 by September 30, 2010 (completed).
- Each MPO must prepare an SCS as part of its RTP to demonstrate how it will meet the regional GHG targets.
- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation, and other outreach efforts (completed) (TRPA 2019a).
- If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies.
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final RTP.
- After adoption, each MPO must submit its SCS to the CARB for review.
- CARB must review each SCS to determine whether, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

In 2010, CARB set GHG reduction targets for the TMPO region passenger vehicles at a seven percent decrease from 2005 emissions levels by 2020 and a five percent decrease from 2005 emissions levels by 2035. The reduction targets were re-evaluated and approved by CARB in 2018.These

[1] 23 Code of Federal Regulations, Section 450.322(c); California Government Code Section 65080(d).

targets apply to the TMPO region for all passenger vehicles emissions, and not to individual cities or sub-regions.

SB 375 specifically states that local governments retain their autonomy to plan local General Plan policies and land uses. The 2020 RTP/SCS provides a regional policy foundation that local governments may build upon, if they so choose. The 2020 RTP/SCS includes and accommodates the quantitative growth projections for the region. SB 375 also requires that the RTP's forecasted development pattern for the region be consistent with the eight-year regional housing needs as allocated to member jurisdictions through the Regional Housing Needs Allocation process under State housing law.

This IS/IEC lays the groundwork for the streamlined review of qualifying development projects. Qualifying projects that meet statutory criteria and are consistent with the 2020 RTP/SCS are eligible for streamlined environmental review pursuant to CEQA under SB 375 and other laws.

Fixing America's Surface Transportation Act (FAST Act)

The most recent federal transportation legislation, Fixing America's Surface Transportation (FAST) Act was enacted in 2015 and builds on the changes made by the Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012. The MAP-21 legislation made several reforms to the metropolitan and statewide transportation planning processes, including incorporating performance goals, measures, and targets into the process of identifying needed transportation improvements and project selection. The FAST Act includes provisions to support and enhance these reforms. Public involvement remains a hallmark of the planning process.

The FAST Act continues requirements for a long-range plan and a short-term transportation improvement program, with the long-range statewide and metropolitan plans now required to include facilities that support intercity transportation, including intercity buses. The statewide and metropolitan long-range plans must describe the performance measures and targets that states and MPOs use to assess system performance and progress in achieving the performance targets. Additionally, the FAST Act requires the planning process to consider projects/strategies to improve the resilience and reliability of the transportation system, address stormwater mitigation, and enhance travel and tourism.

Finally, in an effort to engage all sectors and users of the transportation network, the FAST Act requires that the planning process include public ports and private transportation providers, and further encourages MPOs to consult during this process with officials of other types of planning activities, including tourism and natural disaster risk reduction. MAP-21 and the FAST Act also change criteria for MPO officials to provide transit provider representatives with equal authority and allow the representative to also serve as the representative of a local municipality.

Through the RTP development process, the FAST Act encourages TRPA to:

- Consult with officials responsible for other types of planning activities that are affected by transportation in the area (including State and local planned growth, economic development, environmental protection, airport operations, and freight movements) or to coordinate its planning process, to the maximum extent practicable, with such planning activities[2]

[2] 23 United States Code, Section 134(g)(3)(A).

Specifically, the FAST Act requires that the RTP planning process provide for consideration of projects and strategies that will:

a) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
b) Increase the safety of the transportation system for motorized and non-motorized users
c) Increase the security of the transportation system for motorized and non-motorized users
d) Increase the accessibility and mobility of people and for freight
e) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
f) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight
g) Promote efficient system management and operation
h) Emphasize the preservation of the existing transportation system
i) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
j) Enhance travel and tourism[3]

Planning Final Rule – FAST Act

On May 27, 2016, the Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning Final Rule was issued, with an effective date of June 27, 2016, for Title 23 Code of Federal Regulations (CFR) Parts 450 and 771 and Title 49 CFR Part 613. This final rule states, "On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of MAP-21/FAST Act as specified in the Planning Final Rule." This rule applies to the 2020 RTP/SCS as its adoption date, if adopted, would occur after May 2018.

Environmental Justice

TRPA is required to address social equity and environmental justice in the RTP. The legal basis for environmental justice stems from the Civil Rights Act of 1964, along with Executive Order 12898 (February 1994), which states that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." TRPA must evaluate how the 2020 RTP/SCS might impact minority and low-income populations and must ensure the 2020 RTP/SCS does not have a disproportionately adverse impact on such populations(see Appendix F of the 2020 RTP/SCS).

Per 23 CFR Section 450.316(a)(1)(vii), the participation plan that TRPA must develop and use must describe explicit procedures, strategies, and desired outcomes for "seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services."

[3] 23 United States Code, Section 134(h)(1).

Regional Transportation Plans

As noted, the procedures for developing RTPs are provided in the CTC's Regional Transportation Plan Guidelines (CTC 2017). The guidelines identify the purpose of an RTP to be as follows:

- Providing an assessment of the current modes of transportation and the potential of new travel options within the region
- Projecting/estimating the future needs for travel and goods movement
- Identification and documentation of specific actions necessary to address regional mobility and accessibility needs
- Identification of guidance and documentation of public policy decisions by local, regional, state, and federal officials regarding transportation expenditures and financing and future growth patterns
- Identification of needed transportation improvements, in sufficient detail, to serve as a foundation for the: (a) Development of the Federal Transportation Improvement Program, and the State Transportation Improvement Program, (b) Facilitation of the National Environmental Policy Act (NEPA)/404 integration process, and (c) Identification of project purpose and need
- Employing performance measures that demonstrate the effectiveness of the system of transportation improvement projects in meeting the intended goals
- Promotion of consistency between the CTP, the regional transportation plan and other plans developed by cities, counties, districts, California Tribal Governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs
- Providing a forum for: (1) participation and cooperation and (2) facilitation of partnerships that reconcile transportation issues which transcend regional boundaries
- Involving community-based organizations as part of the public, federal, state, and local agencies, California Tribal Governments, and local elected officials early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

RTPs must include long-term horizons (at least 20 years) that reflect regional needs, identify regional transportation issues/problems, and develop and evaluate solutions that incorporate all modes of travel. RTPs must also recommend a comprehensive approach that provides direction for programming decisions to meet the identified regional transportation needs. RTPs must also be fully consistent with the requirements of the FAST Act and other federal regulations, including conformity with the 1990 Clean Air Act Amendments and consistency with the Federal Transportation Improvement Program.

California Government Code sections 65050, 65400, 65584.01-04, 65587, 65588, and PRC Section 21155 were amended in January 2009 when SB 375 became law, requiring coordinated planning between regional land use and transportation plans to increase efficiency and reduce GHG emissions.

Project Goals and Strategies

The purpose of the 2020 RTP/SCS is to provide a clear vision of the regional transportation goals, strategies, and policies in the Tahoe region. The RTP provides short-term and long-term transportation strategies for implementation, which includes realistic and fiscally constrained alternatives. The purpose of the SCS is to demonstrate the integration of land use, housing, and

transportation for the purpose of reducing GHG emissions from passenger vehicles. Goals and strategies are outlined in the Executive Summary and Introduction of the 2020 RTP/SCS.

2.6 Project Characteristics

As described above, the 2020 RTP/SCS is an update to the current 2017 RTP/SCS adopted in April 2017. The 2020 RTP/SCS reflects minor changes that occurred since adoption of the 2017 RTP/SCS. The 2020 update to the 2017 RTP/SCS focuses on continued implementation of the 2017 RTP/SCS, with minor updates to policies, programs, and projects to ensure consistency with federal, State, and local planning requirements.

Policy Updates

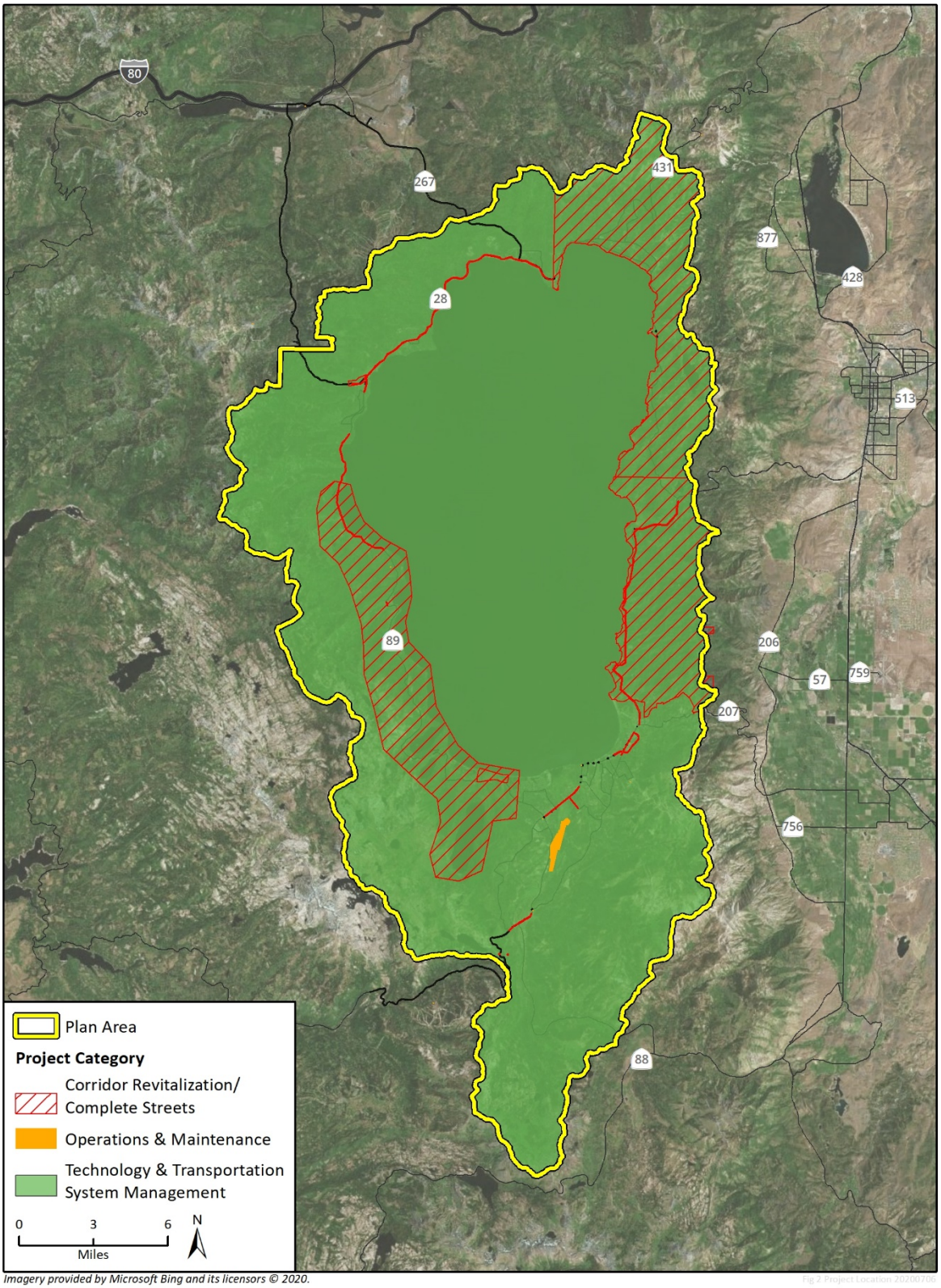
As described above, the 2020 RTP/SCS shows how TRPA will meet the transportation needs of the region for the period from 2020 to 2045, considering existing and projected future land use patterns as well as forecasted population and job growth. Regional goals and policies establish the organizing framework for transportation planning at Lake Tahoe. They represent stakeholder feedback and public input, as well as input from previous plans, such as the 2018 Active Transportation Plan, 2018 Safety Strategy and the 2016 Tahoe-Truckee Plug-In Electric Vehicle Readiness Plan. Of the 70 policies in the 2020 RTP/SCS, 24 are the same as in the 2017 RTP/SCS, 30 have been restated for clarity and other factors, two have been deleted, and 14 new policies were added compared to the 2017 RTP/SCS. Of the new policies, all were added to augment existing policies. A full list of the policies for the 2020 RTP/SCS can be seen in Appendix A. The 2020 RTP/SCS plans for and programs approximately $2.06 billion in revenues expected to be available from all transportation funding sources over the course of the planning period. It identifies and prioritizes expenditures of anticipated funding for transportation projects that involve all transportation modes: highways, streets and roads, transit, rail, bicycle, and pedestrian, aviation, and transportation demand management and transportation system management.

Project Updates

The 2020 RTP/SCS transportation improvements project list is an update the 2017 RTP/SCS project list. As such it removes projects completed since 2017, modifies some projects that remain on the list, and adds approximately 45 new minor projects to the list.[4] Table 1 shows the new financially constrained projects, those with available funding, added to the 2020 RTP/SCS. Location of the new projects is shown on Figure 2, Figure 3, and Figure 4. The RTP/SCS includes active transportation, corridors, operations and maintenance, and transit technology projects. Corridor projects are projects that would revitalize transportation corridors in the Plan Area and improve water quality. Technology projects are complements to infrastructure projects, stand-alone investments, or support future projects through data collection and monitoring. A list of transportation improvement projects included in the proposed 2020 RTP/SCS is shown in Appendix C.

[4] Net new count does not include unconstrained projects in the 2020 RTP/SCS.

Figure 2 New 2020 RTP/SCS Financially Constrained Corridor, Operations, and Technology Projects



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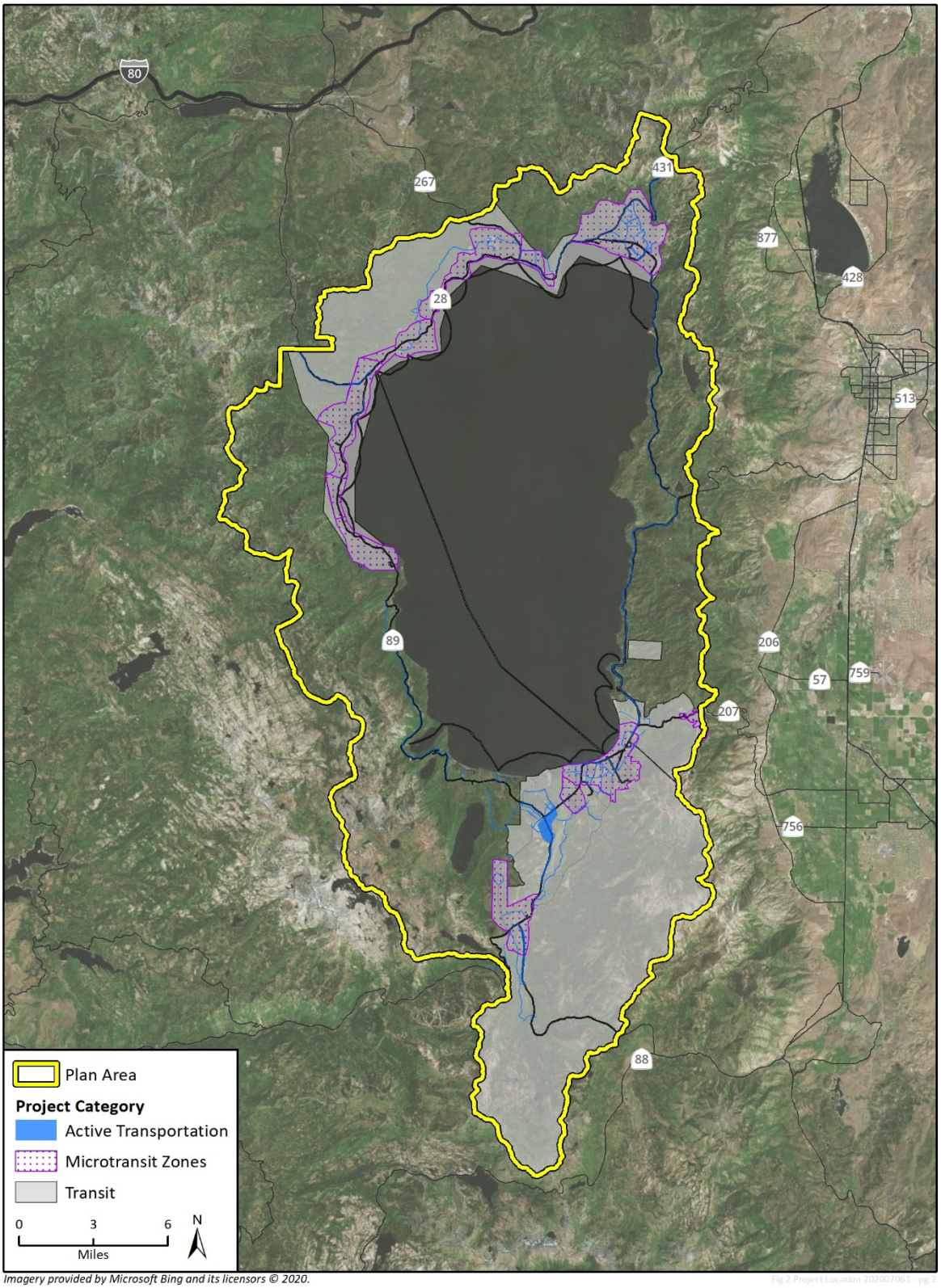
Lake Tahoe Basin Management Unit, 2017.

Figure 3 2020 RTP/SCS Financially Constrained Active Transportation, Microtransit, and Transit Projects



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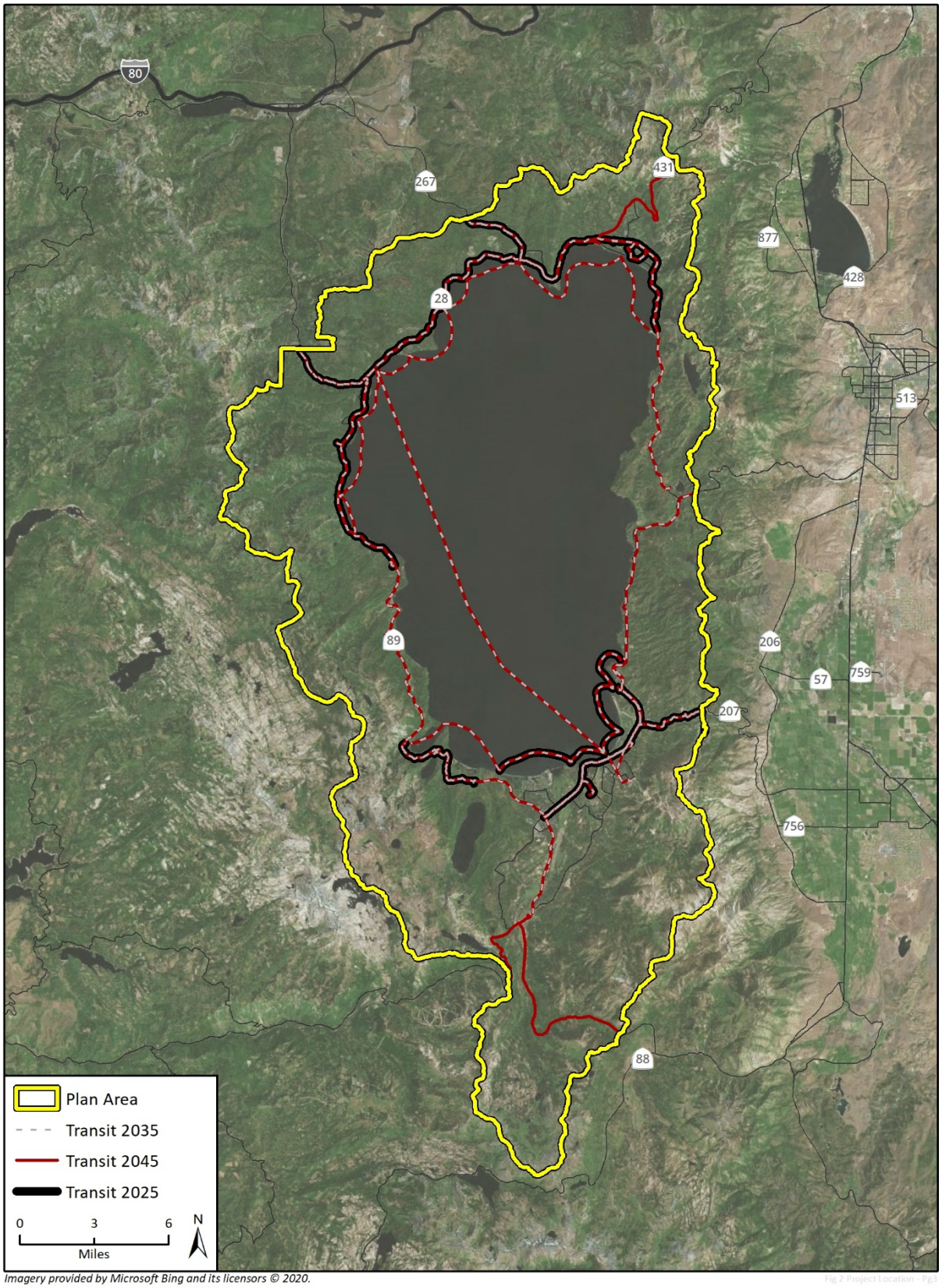
Lake Tahoe Basin Management Unit, 2017.

Figure 4 2020 RTP/SCS Financially Constrained Transit Projects



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Lake Tahoe Basin Management Unit, 2017.

The land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development is anticipated to increase through the forecast years 2035 and 2045, in keeping with State-mandated housing (Appendix D). These increases would accommodate slight increases to full-time residential population and a more robust increase in day and overnight visitors to the Plan Area, which will result in continued and increased use of overnight lodging. .

Residential growth forecasts in the region for full-time residents are anticipated to increase slightly as compared to the downward trend in the 2017 RTP/SCS because the number of regional housing units would increase with residential allocations and affordable housing programs. In addition, the residential occupancy rate is anticipated in increase as housing supply increases. Visitation is similarly anticipated to increase in the Plan Area as a result of population growth in the Bay Area, Sacramento, and Reno and increasing popularity of outdoor recreational experiences. An increase in residential housing and visitation is anticipated result in a small increase in employment in the Plan Area through 2045 (Appendix D).

Table 1 New Financially Constrained 2020 RTP/SCS Projects

Implementing Agency	Title	Project Description	Project Number	Project Type
City of South Lake Tahoe (CSLT)	Trail and Intersection Improvements – Recreation and Swim Center	Additional trail connections and addition of a fourth leg at Tallac and Highway 50	04.01.03.0167	Active Transportation
Placer County	Tahoe City Lakeside Trail Missing Link		04.01.02.0059	Active Transportation
El Dorado County	Class I Bike Path: East San Bernardino - West San Bernardino	Construct approximately 0.37 miles of Class I bike path between West San Bernardino Avenue and East San Bernardino Avenue. The pathway would cross the Upper Truckee River and include access to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School in the community of Meyers. The project proposes to link the bike lane facilities along North Upper Truckee Rd and Apache Ave via a Class III (bike route) through signage and pavement markings.	03.01.02.0040	Active Transportation (Trails)
United Station Forest Service (USFS)	Pope Beach Bike Path	Provide non-motorized path to beach amenities.	03.01.02.0045	Active Transportation (Trails)
TTD	Nevada Stateline to Stateline Bikeway - Crystal Bay to Incline	Construct a portion of the Nevada Stateline to Stateline Bikeway from Crystal Bay to Incline Village.	03.01.02.0064	Active Transportation (Trails)

Implementing Agency	Title	Project Description	Project Number	Project Type
CSLT	Class I Bike Trail - Pine Blvd to end of Linear Park Path (Mountain to Beach Loop Park Ave West)	Construct a Class I trail from the end of the Linear Park Path to Pine Boulevard west of Park Avenue in the CSLT.	03.01.02.0066	Active Transportation (Trails)
El Dorado County	Class I Bike Trail Along Highway 50 from City Limits to Sawmill Road	Construct a Class I bike trail along Highway 50 from the limits of the CSLT to Sawmill Road.	03.01.02.0067	Active Transportation (Trails)
Douglas County	Highway 50 Sidewalk Construction - Kingsbury Grade to Lake Parkway	Sidewalk on southside of US Highway 50 connecting event center to Kingsbury	03.01.02.0053	Active Transportation (Trails)
Placer County	Brockway Vista Multi-Use Trail	Brockway Vista Multi-Use Trail	03.01.02.0084	Active Transportation (Trails)
CTC	Alta Mira Public Access Improvements	Lakeside Bike Trail Phase 2C - Mackinaw to Commons Beach	04.01.01.0010	Active Transportation (Trails)
El Dorado County	South Tahoe Greenway Shared Use Trail Phases 1b & 2	The project would construct 0.95 miles of AASHTO-compliant trail between Glenwood Way and Sierra Boulevard, including 0.77 miles of 10-foot-wide asphalt trail and 0.18 miles of elevated boardwalk/bridge. A new bike bridge over Trout Creek, improved local street crossings, and interpretive/wayfinding signage are also part of the project.	03.01.02.0087	Active Transportation (Trails)
TTD	Nevada Stateline to Stateline Corridor Improvements - Glenbrook Entrance to Round Hill Pines Beach	This project would include segments D, E, and F, identified in the Nevada Stateline-to-Stateline Bikeway Project Feasibility Study Report, completed in June 2011. Segment D: Glenbrook Entrance to Cave Rock Drive. Segment E: Cave Rock Drive to Zephyr Cove/ Segment F: Zephyr Cove to Round Hill Pines Beach Entrance.	03.01.02.0093	Active Transportation (Trails)
CSLT	Lake Tahoe Boulevard Class 1 Bicycle Trail (Viking Way to South Wye)	Design and construct Class I bike trail, ADA compliant ramps, and pathway lighting along the 0.6-mile section of Lake Tahoe Blvd. from the Intersection of Viking Way (D-Street) to the intersection of State Hwy 89 and US Highway 50 (South Wye).	03.01.02.0094	Active Transportation (Trails)
CSLT	Middle School SR2S Project - Rufus Allen Connector	This project proposes a Class I Bike and Ped trail along Rufus Allen Boulevard providing safe routes to school with access to the Al Tahoe Elementary School, Al Tahoe Middle School, St. Theresa School/Church, Boys and Girls Club, and the South Tahoe Middle School via a new trail connector across Lake Tahoe Unified School District property. Recreation facilities including the	03.01.02.0110	Active Transportation (Trails)

Implementing Agency	Title	Project Description	Project Number	Project Type
		Recreation Center, Ice Arena, Play Fields, Running Track, Soccer Fields and the CTC Greenway would be accessed as well. Improvements along Rufus Allen Blvd are proposed to address urban stormwater water quality and flooding. Project would begin at Highway 50 and Rufus Allen Blvd and connects to the Al Tahoe Blvd Class I project		
El Dorado County	Fallen Leaf Road Pavement Rehabilitation and Recreational Access Project	Fallen Leaf Road is 4.94 miles long and extends from SR 89 to the southern end of Fallen Leaf Lake at Stanford Sierra Camp. The proposed project would complete roadway improvements along a 2-mile segment of Fallen Leaf Road from SR 89 to Tahoe Mountain Road, including an extension of the bike path from the Fallen Leaf Lake Campground to Tahoe Mountain Road. The currently deteriorating pavement conditions are a deterrent for users of the Fallen Leaf Road to access Federal lands, who are often towing boats, bikes, camping gear or snowmobiles	03.01.02.0141	Active Transportation (Trails)
Tahoe Resource Conservation District (TRCD)	Kahle Drive Complete Street	This project proposes to transform Kahle Drive into a complete street by improving drainage, adding sidewalks, bike lanes, crosswalks, a safe intersection, and undergrounding overhead utilities. This 0.5 collector road provides key linkages to the existing Stateline to Stateline bike trail, trails throughout Rabe Meadow, and a Douglas County community center. The current condition of the road is highly degraded, unsafe, and a detriment to water quality and the adjacent public lands.	03.01.02.0143	Active Transportation
USFS	Camp Richardson Resort and Campground BMPs & Retrofit	Retrofit and/or provide water quality BMP-compliant day use parking for resort guests and employees. Reconfigure and retrofit road and day use parking, including implementation of water quality BMPs. Retrofit Village area to provide improved circulation efficiency and safety and implement water quality protection BMPs. Reconfigure campground entrance and primary circulation within the southern campground area.	04.01.03.0112	Active Transportation
CSLT	Class I Bike Trail: Third Street/Tahoe Valley Elementary	Tahoe Valley Elementary School to provide a safe route for students and link U.S. 50 corridor to the Tahoe Valley neighborhoods	03.01.02.0006	Active Transportation (Trails)

Implementing Agency	Title	Project Description	Project Number	Project Type
TTD	SR 28 Central Corridor Improvements – Sand Harbor to Spooner State Park	Central Corridor improvements include 8-mile segment of the NV Stateline to Stateline Bikeway connecting Sand Harbor to Spooner State Park proposed on the lake side of SR 28 providing off highway connections to US Forest Service recreation areas. The project includes co-location of Incline Village General Improve. District's treated sewer effluent export line. Replacement will relocate the new line under bike path, and include options for other utilities (NV Energy / AT&T) to underground. To improve safety, parking lot expansions and improvements with transit stops are also planned throughout the corridor to relocate on highway parking. A permanent boat inspection station is also planned.	03.01.02.0049	Corridor
Placer County	Resort Triangle Transportation Plan	Placer Co is developing a Corridor Plan for the Resort Triangle, includes parking management, TDM, shuttles, improvements; within the basin SR89, SR267, SR28		Corridor
Nevada Department of Transportation (NDOT)	NDOT Complete Streets Project	The project improves traffic flow and promotes modal shift through safety and complete streets improvements including bike lanes, pedestrian crossing upgrades, adding left turn pockets, roadway realignment and pavement mill and fill, which includes grinding up the road and replacing it with an overlay.	03.01.02.0073	Corridor
NDOT	Highway 50 Safety Improvement and Complete Streets	The project improves traffic flow and promotes modal shift through safety and complete streets improvements including bike lanes, pedestrian crossing upgrades, adding left turn pockets, roadway realignment and pavement mill and fill, which includes grinding up the road and replacing it with an overlay.	03.01.02.0108	Corridor
Caltrans	Caltrans Tahoe City Maintenance Station (SHOPP)	On SR 89 near Tahoe City, at the Caltrans Tahoe City Maintenance Station. Demolish existing employee housing and construct new dormitory building.	4216	Corridor
Caltrans	Pavement Perseveration - SR28/SR89 Junction to Nevada State Line (SHOPP)	On SR 28 in Placer County from SR 28/SR 89 Junction to Nevada State line. Grind and replace existing pavement, rehabilitate or replace poor drainage systems, and upgrade non-ADA compliance ramps to current standards. EA 0J010	06.01.03.0041	Operations and Maintenance

Implementing Agency	Title	Project Description	Project Number	Project Type
CSLT	Bike and Pedestrian Facilities Operations and Maintenance – CSLT		06.01.03.0009	Operations and Maintenance
El Dorado County	Bike and Pedestrian Facilities Operations and Maintenance		06.01.03.0008	Operations and Maintenance
Tahoe City	Bike and Pedestrian Facilities Operations and Maintenance		06.01.03.0007	Operations and Maintenance
Caltrans	Highway 50 Echo Summit Bridge Rehabilitation	On Highway 50 at Echo Summit Sidehill Viaduct Bridge (#25-0044). Bridge replacement.	01.01.02.0030	Operations and Maintenance
Placer County	Streets and Roads Operations and Maintenance		06.01.03.0014	Operations and Maintenance
Douglas County	Streets and Roads Operations and Maintenance		06.01.03.0017	Operations and Maintenance
Placer County	Bike and Pedestrian Facilities Operations and Maintenance		06.01.03.0006	Operations and Maintenance
Douglas County	Bike and Pedestrian Facilities Operations and Maintenance	Supports project “TART Local Service Enhancements - Short Term” and “TART Additional and Expanded Service to Truckee - Short Term” to include replacement buses, expansion buses (estimated at 6), bus stop improvements, and Crystal Bay Transit Stop Enhancements.	06.01.03.0010	Operations and Maintenance
Washoe County	Bike and Pedestrian Facilities Operations and Maintenance	This project provides capital improvements to transit - long term.	06.01.03.0011	Operations and Maintenance
NDOT	Streets and Roads Operations and Maintenance - NDOT	This project represents the sweeping completed by the Nevada Department of Transportation.	06.01.03.0019	Operations and Maintenance
Washoe County	Streets and Roads Operations and Maintenance	This project represents the sweeping completed by the Nevada Department of Transportation.	06.01.03.0018	Operations and Maintenance

Implementing Agency	Title	Project Description	Project Number	Project Type
NDOT	Emergency Roadway Repair Program	Emergency road repair.	06.01.03.0034	Operations and Maintenance
Caltrans	Sierra Nevada Operation System	Smartphones have become the most accessible device for pre-trip planning. This project would develop smartphone applications to enhance traveler information dissemination. Envisioned applications include transit, parking, and traffic network data. Applications would be advertised on TTD's website. To realize the full benefit of this project, enhanced cellular coverage is required to provide better accessibility to the application's data. Through improved efficacy of the transportation system, congestion and air quality is expected to improve. This project is ITS Plan - RI-09. (SR89 Corridor)	03.01.02.0076	Technology
TTD	Tahoe Basin Transportation Smartphone Application Pilot	This project builds off Tahoe City Downtown Access improvements, located on the constrained project list. Strategies could include consideration of dedicated parking circulators during peak periods, new parking and mobility infrastructure, and wayfinding signage. Wayfinding signage for parking facilities should be incorporated into a comprehensive program for multiple modes.	03.01.02.0102	Technology
Placer County	Improved Parking Management and Wayfinding in Tahoe City	This project builds off Tahoe City Downtown Access improvements, located on the constrained project list. Strategies could include consideration of dedicated parking circulators during peak periods, new parking and mobility infrastructure, and wayfinding signage. Wayfinding signage for parking facilities should be incorporated into a comprehensive program for multiple modes.	06.01.03.0036	Technology
CSLT	Pioneer Trail Safety Improvement Project (signing, lighting, striping)	Install dynamic speed feedback signs on Pioneer Trail on approaches. At intersection, install edge-lines and center lines, intersection warning signs for minor streets, intersection lighting, upgrade pavement markings, and widen shoulder.	4165	Technology
TTD	TTD Maintenance & Administration Facility	This project includes capital expenditures for the transit system. Included in the project is preventive maintenance; fleet and facilities improvements; safety and security enhancements to both the fleet and facilities; and/or the purchase/lease of real property; and construction of facilities. The fleet component of this project includes, but is not limited to, the purchase of transit buses and other fleet vehicles and	03.01.02.0038	Transit

Implementing Agency	Title	Project Description	Project Number	Project Type
		related equipment either as replacements or expansions to the fleet. Fuel types may include battery electric, gasoline, diesel, or variants/combinations of those noted fuels.		
TRPA	Mobility Hub and Transit Center Capital	Mobility hub and transit center.	03.01.02.0123	Transit
TTD	TD Phase 2025 Transit Capital Enhancements and Fleet Replacement	This project would improve the existing US Forest Service Welcome Center or construct a new terminal facility in Meyers to serve as the terminus of the Route 54 service and the transfer point to future additional services to connect to out of basin destinations. Improvements to the LTCC transfer terminal in conjunction with the college to add enhanced waiting facilities and real-time arrival displays. This project would fund three additional battery electric buses needed to operate the service at the envisioned frequency plus two spares. This project will fund one additional gasoline small cutaway needed to operate the expanded demand response service.	03.01.02.0115	Transit
TTD	TTD Transit Capital Enhancements and Fleet Replacement	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	03.01.02.0136 03.01.02.0128 03.01.02.0144	Transit
Private	North Shore Water Taxi Project Phase 2035	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	New	Transit

Source: Full project list is included as Appendix C

Caltrans = California Department of Transportation; CTC = California Tahoe Conservancy; Highway 50 = U.S. Highway 50; NDOT = Nevada County Department of Transportation; SR = State Route; TRCD = Tahoe Resource Conservation District; TTD =Tahoe Transportation District, USFS = United States Forest Service

2020 RTP/SCS Organization

TRPA adopted the previous 2017 RTP/SCS in April of 2017. This 2020 RTP/SCS reflects changes in legislative requirements, local land use policies, and resource constraints and is organized into seven sections:

- Executive Summary
- Introduction
- Planning Context
- The Plan
- Funding the Plan
- Measuring and Managing for Success

- Moving Forward

The vision of the 2020 RTP/SCS is to have a transportation system in the Plan Area that is, "interconnected, inter-regional, and sustainable, connecting people and places in ways that reduce reliance on the private automobile." Regional goals and policies establish the framework of the 2020 RTP/SCS. Goals and polices represent stakeholder feedback, public input, and input from previous plans, such as TRPA's 2018 Active Transportation Plan. The 2012 RTP/SCS and 2020 RTP/SCS share six transportation related goals, as shown in the Executive Summary of the 2020 RTP/SCS. The 2020 RTP/SCS incorporates two main strategies into all its proposed improvements to help the Plan Area achieve the envisioned transportation system: travel demand management and transportation system management. Transportation system management projects are organized into transit, trails, technology, and corridor categories.

2.7 Required Approvals

Approval of the RTP/SCS is at the discretion of the TRPA Governing Board, but additional environmental review will be conducted by the responsible lead agency prior to implementation of individual projects contained within the 2020 RTP/SCS. Lead agencies include, but are not limited to the following:

- California Department of Transportation (Caltrans)
- California Transportation Commission (CTC)
- North Tahoe Public Utility District (NTPUD)
- Tahoe City Public Utility District (TCPUD)
- Carson Area Metropolitan Planning Organization (CAMPO)
- Tahoe Truckee Area Regional Transit (TART)
- Tahoe Resource Conservation District (TRCD)
- Tahoe Transportation District (TTD)
- Cities of: South Lake Tahoe and Carson City
- Counties of: Placer, Washoe, Douglas, and El Dorado
- Nevada Tahoe Conservation District (NTCD)
- Nevada Department of Transportation (NDOT)

The relationship of this IS/IEC to future environmental review of individual transportation projects is further discussed in Section 1.0, *Introduction*.

2.8 Relationship with Other Plans and Programs

The 2020 RTP/SCS provides a sound basis for the allocation of state and federal transportation funds for transportation projects over the subsequent 20 years. The 2020 RTP/SCS follows guidelines established by the CTC and NDOT to:

- Describe the transportation issues and needs facing the region
- Identify goals and policies for how TRPA will meet those needs
- Identify the amount of money that will be available for identified projects

- Include a list of prioritized transportation projects to serve the region's long-term needs, consistent with the funds allocated, while considering environmental impacts and planning for future land use

The 2020 RTP/SCS has been evaluated for consistency with the goals, policies and objectives currently being implemented by municipal and county planning agencies within the Tahoe Region. The 2020 RTP/SCS would be implemented with other existing TRPA, municipal, and county programs designed to improve transit access, bicycle and pedestrian facilities and reduce overall vehicle trips.

2.9 Tribal Consultation Pursuant to Public Resources Code Section 21080.3.1

The Washoe Tribe of Nevada and California is an important partner in transportation planning at Lake Tahoe. The Tribe and TRPA have acknowledged the mutual benefit of a formalized process for communication for land, transportation, and resource management decision making and other governmental relations. Both parties have a strong interest in the protection of social, biological, and Tribal cultural resources in the Lake Tahoe Region. For the 2020 RTP/SCS, TRPA engaged the Washoe tribe on the overall RTP strategy pursuant to Public Resources Code Section 21080.3.1. TRPA will continue to engage the Tribe as the U.S. Highway 50 East Shore Corridor Plan and State Route 89 Recreation Corridor Plan are developed. Additionally, the following tribes were contacted for the 2020 RTP/SCS: Auburn Rancheria, Bridgeport Paiute, Browns Valley, Shingle Springs, Colfax, Nashville Enterprise, and Walker River.

3 Initial Study/Initial Environmental Checklist

This section discusses the possible environmental effects of the proposed project for the specific issue areas that were identified as having the potential to experience significant impacts. As an IS-MND and IEC-FONSE, this report analyzes the same potentially significant impact areas as the 2017 RTP/SCS. A "significant effect" is defined by the *CEQA Guidelines* Section 15382 as:

> a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment but may be considered in determining whether the physical change is significant.

The following issue areas were identified as having potentially significant impacts in the 2012 and 2017 RTP/SCS and are evaluated in more detail in this IS/IEC:

1. Aesthetics
2. Air Quality
3. Greenhouse Gas Emissions
4. Noise
5. Recreation
6. Transportation and Circulation

In addition to those listed above the following environmental issue areas 2020 RTP/SCS are evaluated in the 2020 RTP/SCS IS/IEC: Agriculture and Forestry Resources, Biological Resources, Cultural Resources, Energy, Geology/Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Tribal Cultural Resources, Utilities and Service Systems, and Wildfire.

As an IEC-FONSE, this report analyzes the potential environmental impacts for areas required by the TRPA Environmental Checklist. TRPA topics are analyzed and discussed under related CEQA impact topics as shown in Table 2 below. Although projects proposed in the 2020 RTP/SCS are analyzed throughout this document each individual project would be required to comply with local jurisdiction standards and undergo individual environmental analysis under CEQA, TRPA, and potentially NEPA (if on federal lands) review. The level of documentation for environmental review for each individual project would vary based on site specific conditions.

Table 2 Impact Topics Organization

CEQA	TRPA
Aesthetics	Scenic Resources/Community Design, Light & Glare
Agriculture & Forestry Resources	Vegetation
Air Quality	Air Quality
Biological Resources	Natural Resources, Vegetation, Wildlife
Cultural Resources	Archaeological/Historical
Energy	Energy
Geology/Soils	Land
Greenhouse Gas Emissions	Greenhouse Gas Emissions[1]
Hazards & Hazardous Materials	Risk of Upset, Human Health
Hydrology/Water Quality	Water Quality
Land Use/Planning	Land Use
Mineral Resources	Vegetation
Noise	Noise
Population/Housing	Population, Housing
Recreation	Recreation
Transportation	Transportation/Circulation
Tribal Resources	Archaeological/Historical
Utilities/Service Systems	Utilities, Energy
Wildfire	Risk of Upset, Human Health

[1] While the TRPA checklist does not include specific GHG questions, TRPA does evaluate GHG emissions as they affect environmental thresholds.

The assessment of each issue area begins with a table identifying where the impact was analyzed (the 2017 RTP/SCS IS/IEC or 2012 RTP/SCS EIR/EIS), if proposed changes require major revisions to the 2017 IS/IEC, if any new circumstances would result in major revisions to the IS/IEC, whether new information requires further analysis or results in new or substantially more severe significant impacts, and if adopted mitigation will resolve impacts. The following section discusses the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection describes each impact of the proposed project starting with CEQA impact topics and followed by related TRPA impact topics, mitigation measures for significant impacts (if any), and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

CEQA

Significant and Unavoidable. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per Section 15093 of the *CEQA Guidelines*.

Less than Significant with Mitigation Incorporated. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under Section 15091 of the *CEQA Guidelines*.

Less than Significant. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

No Impact. The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

TRPA (Section 3.3.2)

TRPA Code Section 3.3.2 indicates that a response of "Data Insufficient" or a determination that a project may have a significant effect on the environment requires additional environmental analysis in the form of an Environmental Assessment or EIS. The Initial Environmental Checklist form requires that all "Yes" and "No, with Mitigation" response require a written explanation. TRPA identifies the following four levels of impacts:

Yes

No

No with Mitigation

Data Insufficient

A list of mitigation measures follows each environmental impact discussion (if required) and the residual effects or level of significance that remains after implementation of the measure(s) is discussed. Appendix B includes all mitigation measures from the 2012 RTP/SCS EIR/EIS and 2017 IS/IEC that apply to the proposed project.

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

■	Aesthetics	☐	Agriculture and Forestry Resources	■	Air Quality
■	Biological Resources	■	Cultural Resources	☐	Energy
■	Geology/Soils	■	Greenhouse Gas Emissions	■	Hazards and Hazardous Materials
☐	Hydrology/Water Quality	■	Land Use/Planning	☐	Mineral Resources
■	Noise	☐	Population/Housing	■	Public Services
☐	Recreation	■	Transportation	■	Tribal Cultural Resources
■	Utilities/Service Systems	☐	Wildfire	■	Mandatory Findings of Significance

CEQA Environmental Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Rebecca Cremeen Digitally signed by Rebecca Cremeen
DN: cn=Rebecca Cremeen, o=TRPA, ou, email=rcremeen@trpa.org, c=US
Date: 2020.09.10 11:23:45 -07'00'

Signature

Date

Printed Name

Title

TRPA Environmental Determination

Based on this evaluation:

☐ The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared on accordance with TRPA's Rules of Procedure

■ The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure

☐ The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this chapter and TRPA's Rules of Procedure.

Rebecca Cremeen Digitally signed by Rebecca Cremeen
DN: cn=Rebecca Cremeen, o=TRPA,
ou, email=rcremeen@trpa.org, c=US
Date: 2020.09.10 11:24:23 -07'00'

Signature

Date

Printed Name

Title

4 Evaluation of Impacts

1 Aesthetics

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist Would the project:					
a. Have a substantial adverse effect on a scenic vista?	2012 RTP/SCS EIR/EIS Impact 3.9-2	No	No	No	Yes
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	2012 RTP/SCS EIR/EIS Impact 3.9-1 and Impact 3.9-2	No	No	No	Yes
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	2012 RTP/SCS EIR/EIS Impact 3.9-1	No	No	No	Yes
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	2012 RTP/SCS EIR/EIS Impact 3.9-3	No	No	No	Yes

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
TRPA Environmental Checklist: Section 18 – Scenic Resources/Community Design					
Will the proposal:					
a. Be visible from any state or federal highway, Pioneer Trail or Lake Tahoe	2012 RTP/SCS EIR/EIS Impact 3.9-1, 3.9-2	No	No	No	Yes
b. Be visible from any public recreation area or TRPA designated bicycle trail?	2012 RTP/SCS EIR/EIS Impact 3.9-1	No	No	No	Yes
c. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?	2012 RTP/SCS EIR/EIS Impact 3.9-2	No	No	No	Yes
d. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?	2012 RTP/SCS EIR/EIS Impact 3.9-1	No	No	No	Yes
e. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?	2012 RTP/SCS EIR/EIS Impact 3.9-1 and 3.9-2	No	No	No	Yes
TRPA Environmental Checklist: Section 7 – Light and Glare					
Will the proposal:					
f. Include new or modified sources of exterior lighting?	2012 RTP/SCS EIR/EIS Impact 3.9-3	No	No	No	Yes
g. Create new illumination, which is more substantial than other lighting, if any, within the surrounding area?	2012 RTP/SCS EIR/EIS Impact 3.9-3	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
h.	Cause light from exterior sources to be cast off-site or onto public lands?	2012 RTP/SCS EIR/EIS Impact 3.9-3	No	No	No	Yes
i.	Create new sources of glare through the siting of the improvements or through the use of reflective materials?	2012 RTP/SCS EIR/EIS Impact 3.9-3	No	No	No	Yes

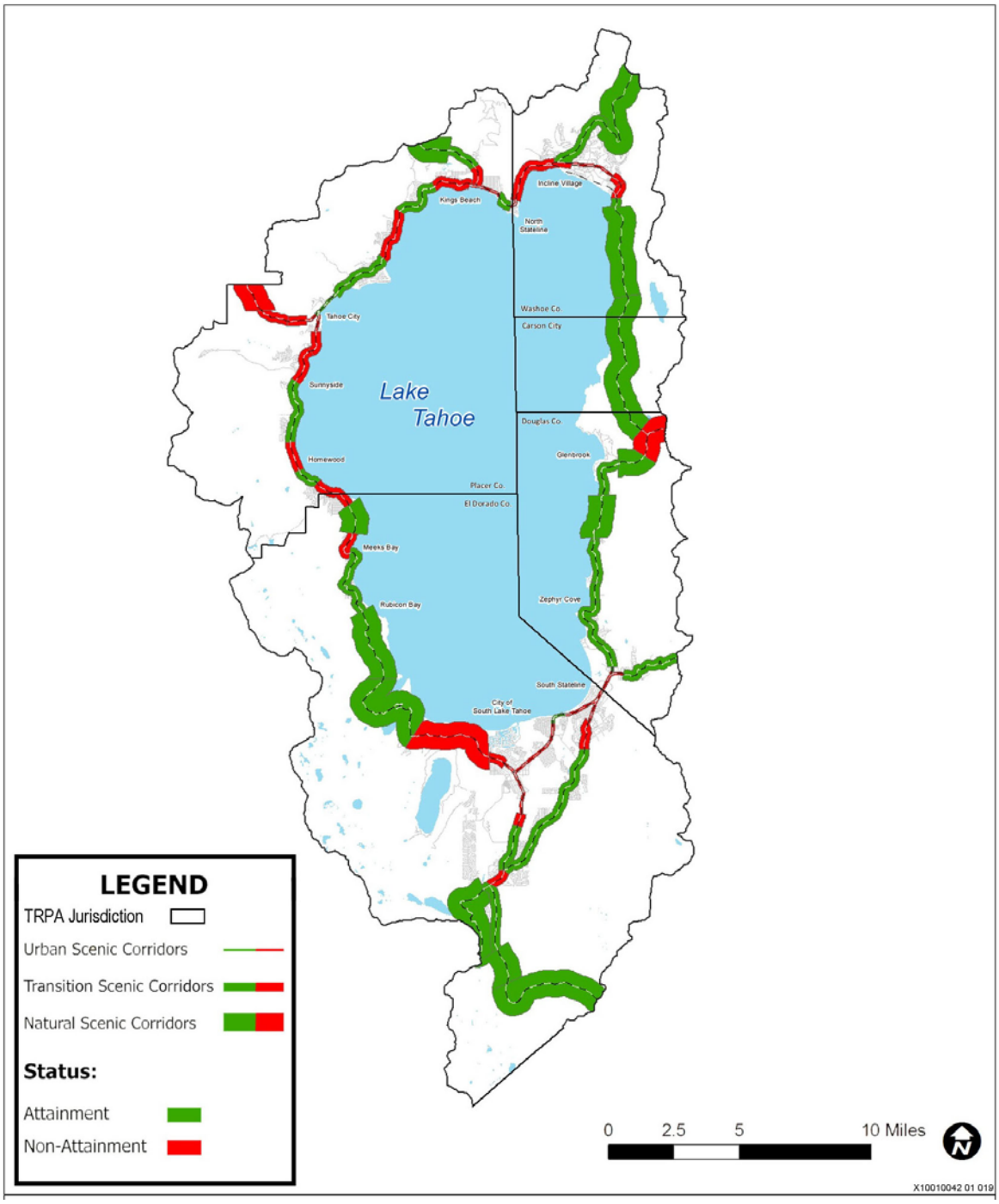
Discussion

This section presents the analyses for potential impacts to aesthetics and visual quality by considering changes to the environment and new projects since the 2017 RTP/SCS checklist. The 2015 Threshold Evaluation is the latest TRPA assessment of visual quality in the Lake Tahoe region (TRPA 2016a). It accounts for ongoing improvements in the region relative to nine threshold categories, including scenic resources where the goal is to maintain or improve the quality of view from public, outdoor recreation areas, mainly through the implementation and enforcement of design guidelines (TRPA 1989, TRPA 2020a). Through this program, in conjunction with regional, state, and federal collaboration on the Lake Tahoe Environmental Improvement Program, aesthetic conditions continue to improve, particularly as new development occurs (TRPA 2020b).

According to the 2015 Threshold Evaluation, an overall improvement in scenic ratings is observed at a regional scale for visual resources associated with bicycle and other recreation trails, as well as other projects associated with uses that may be visible from the lake or from roadways (TRPA 2016). These improvements in visual character are expected to continue to improve as new projects are built and replace development that pre-dates the enforcement of the design standards. Figure 5 shows urban and natural scenic corridors along with transition zones. Projects proposed in the 2020 RTP/SCS would be subject to these same design standards and review by TRPA's Current Planning Division during the permitting process.

All projects included in this plan must comply with the Design Review Guidelines in Chapter 36 of the TRPA Code of Ordinances, which includes specific standards for site design, building design, landscaping, and lighting. Chapter 37 of the Code also establishes height standards to ensure visually compatible development. Chapter 66, Scenic Quality, contains specific standards for roadway travel units, scenic highway corridors, and scenic viewpoints. TRPA's Scenic Quality Improvement Program (SQIP) contains recommendations for scenic improvements in specific locations based on the current scenic attainment score (TRPA 2019b). TRPA and implementing project partners would consult the SQIP when designing transportation projects that are in the areas identified for improvements. Typical scenic improvement recommendations include undergrounding utilities, vegetation screening, and use of natural building materials.

Figure 5 Scenic Corridors in the Plan Area



Projects would be subject to local jurisdiction scenic and design standards, as well as state and federal. These local jurisdictional planning documents were discussed in detail in the 2012 RTP/SCS EIR, but some have been updated since. Projects may also be located on U.S. Forest Service lands, California State Parks, or Nevada State Parks lands, some of which have specific design requirements for signage and other improvements associated with transportation projects. The applicable documents are as follows:

- Caltrans Guide to Visual and Aesthetics Review (2016)
- City of Carson City Master Plan Guiding Principle #3, Stewardship of the Natural Environment (City of Carson City 2006b)
- Douglas County Master Plan Land Use Element (Douglas County 2012), undergoing update with new maps ready December 2019 and revised element ready December 2020 (Booth 2020)
- Douglas County Design Criteria and Improvement Standards (Douglas County 2011)
- El Dorado County Design and Improvement Standards Manual (El Dorado County 1989)
- El Dorado County Targeted General Plan Amendment and Zoning Ordinance Update, Article 3 Site Planning and Project Design Standards (El Dorado County 2015)
- Nevada Department of Transportation Landscape and Aesthetics Corridor Plan (NDOT 2012)
- Placer County General Plan Land Use Development Form and Design (Placer County 2013)
- City of South Lake Tahoe General Plan Natural and Cultural Resources Element (CSLT 2011)
- City of South Lake Tahoe Design Guidelines (CSLT 2016)
- Washoe County Master Plan Conservation Element (Washoe County 2010)
- U.S. Department of Agriculture, Forest Service Division Visual Standards Guide (USDA 2013)

New, revised, and carry-over policies in the 2020 RTP/SCS that could relate to visual quality impacts are as follows:

- **Policy 2.14**: Construct, upgrade, and maintain pedestrian and bicycle facilities consistent with the Active Transportation Plan
- **Policy 2.18**: In roadway improvements, construct, upgrade, and maintain active transportation and transit facilities along major travel routes. In constrained locations, all design options should be considered, including but not limited to restriping, roadway realignment, signalization, and purchase of right of way
- **Policy 2.19**: Encourage partners to develop and implement plans coordinating wayfinding and signage to build awareness of alternative transportation opportunities including transit, pedestrian, and bicycle facilities.
- **Policy 3.5**: Design projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points. Consider increased safety signage, site distance, and other design features, as appropriate.
- **Policy 4.8:** Prohibit the construction of roadways to freeway design standards in the Tahoe Region. Establish Tahoe specific traffic design volume for project development and analysis.
- **Policy 4.9**: Require the development of traffic management plans for major temporary seasonal activities, including streetscape flexibility within urban centers, and the coordination of simultaneously occurring events
- **Policy 4.14:** Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible
- **Policy 6.1**: Preserve the condition of sidewalks and bicycle facilities and maintain, where feasible, for year-round use.
- **New Policy (System Preservation):** Improve winter transit access by providing shelters, cleared sidewalks and paths around stops, winter accessible bike racks, and warm shelters at mobility hubs and major transit stops.

- **Policy 6.2**: Maintain and preserve pavement condition to a level that supports the safety of the traveling public and protects water quality.

Projects proposed under the 2020 RTP/SCS are intended to implement these policies through adding new facilities, maintaining existing ones, and making those facilities more accessible through parking management and wayfinding signage, as discussed below.

Components of Projects with Potential for Impact

The 2020 RTP/SCS includes a range of projects, including active transportation, transit, corridor, operations and maintenance, and technology projects. Active transportation projects include trails and trail connectors that are paved or maintained dirt with various supporting components such as border fences, wayfinding signs, and interpretive panels at staging areas. Some projects could include restrooms, parking, and other supporting structures that have the potential to affect the scenic environment. Scenic mitigation would be required as described in the impact analysis below. Active transportation projects where scenic mitigation could be required include, but are not limited to the Tahoe City Lakeside Trail Missing Link, and the Dollar Creek Shared-Use Trail; corridor and community projects, such as the Kings Beach Commercial Core Improvement Project; operations and maintenance projects, such as streets and roads repairs and snow plowing in Placer and Douglas counties; and variable speed signs that could be implemented as part of the technology projects.

Corridor and Community, Operations and Maintenance, and Transit projects would include street improvements, lighting, traffic flow and parking management, and seasonal street sweeping or snow plowing. Improved bus facilities are anticipated for the Crystal Bay Transit Stop, a mobility hub and transit center could be added, and existing facilities at the USFS Welcome Center could be replaced or enhanced, on Route 54. Transit projects could also include a water taxi with associated docks, signage, and supporting structures. Technology projects such as the Tahoe City Downtown Access improvements include signage to assist with safe driving, wayfinding, locating parking, and mobility infrastructure.

Where project components are at-grade, they would not interfere with access to scenic vistas, but implementation of street lighting, parking facilities, and transit facilities could introduce new buildings and structures with the potential to affect scenic vistas, depending on their placement and design. New projects of this type include the Kings Beach Commercial Core Improvement Project and the Resort Triangle Transportation Plan, both in Placer County, and the NDOT Complete Streets Project, throughout the Nevada counties. The Kings Beach project features landscaping, changes to the roadway design on Route 28, and implementation of parking management such as parking restrictions and metering, all of which were found to have no impact or less than significant impact to visual resources in the Final Environmental Assessment for the project (Placer County 2010). The Resort Triangle Transportation Plan anticipates implementing parking management and improving pedestrian, cycling, and public transit connectivity. It would also install wayfinding signs in and around the Resort Triangle area. The NDOT Complete Streets projects would redesign certain streets to accommodate safe non-motorized travel. The Complete Streets Policies document recommends adherence to industry-wide design standards (NDOT 2016).

The Regional Visual Environments section of the TRPA Design Guidelines gives general descriptions of the desired visual environment in urban, rural transition, and rural areas. Additionally, the Element details scale, style, landscaping, building materials and colors, lighting, and signage

preferences for each of these areas, commensurate with the level of human activity that normally occurs there (TRPA 1989).

The counties in the Plan Area have adopted general plans and design guidelines that offer policies and standards which support consistent development and preservation of the scenic environment. Additionally, USFS and Caltrans offer guidelines for visual assessment and preservation of visual quality on public lands and from public roadways (Caltrans 2016, USDA 2013). These standards for visual assessment govern the analysis in this report, along with TRPAs standards as discussed above.

CEQA Environmental Checklist

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista is a viewpoint often accessed from public roadways or active transportation facilities that offers sweeping views of the landscape. Transportation facilities can enhance views from such places when they increase access to public viewing locations or they can detract from these resources, if they introduce a large, industrial feature such as a bridge, where there was none.

The 2012 RTP/SCS EIR/EIS found that even though the RTP/SCS has an inherent objective to protect scenic quality, there is potential for significant impacts to occur during project implementation, requiring "considerable discretion…be applied to projects to determine how scenic impacts would be avoided, or if needed, what compensatory mitigation might be required. The 2017 RTP/SCS IS/IEC made similar findings for scenic quality.

Active transportation projects would likely include primary features that are at-ground level, like paths, and other components that are more elevated such as barrier fences, signage, and interpretive panels along the path. The nature of these types of projects is to facilitate enjoyment of scenic vistas and most elements would not rise very far above the ground surface. Thus, new project components such as paths or fencing would not impede the viewing of scenic vistas. Fencing, signs, and interpretive panels could, however, interfere with views if they create a strong contrast, by means of their materials or color, or if they introduce a visual element out of harmony/unity with the surrounding landscape or that is placed so it creates an awkward element in an otherwise vivid view of the landscape.

Operation and Maintenance projects that could affect scenic vistas include a mobility hub in Meyers, which would involve the construction of a new transit facility. If this project includes components that rise to heights that interfere with vistas along U.S. Highway 50 it would have the potential to adversely affect scenic vistas. Current structures and buildings in the vicinity are limited to one or two stories, and mostly allow views to the horizon. Still, some infrastructure features detract from the unity of the view and lower the visual quality. As these features are replaced or renovated, conditions will improve, and this project has the potential to add to that improvement. The review process for this project and other operation and maintenance projects added to the 2020 RTP/SCS would ensure adherence to TRPA Design Guidelines and El Dorado County policies for preserving scenic quality during the design and review process. Mitigation Measure 3.1-9b from the 2012 RTP/SCS EIR/EIS, which addresses project design review, would apply to above-grade, permanent project components to ensure they are composed in relation to the landscape. Project specific design and/or mitigation would be necessary for operation and maintenance projects that include signage and other features to reduce impacts to a less-than-significant level.

Other Operation and Maintenance projects may introduce equipment used to repair, clean, or clear roadways that could affect scenic vistas. This effect would be temporary due to the nature of the

work (e.g., snow plowing or asphalt resurfacing) and therefore would cease to be an issue when the work was completed. Impacts would be less than significant.

Technology projects that introduce signage to direct traffic flow in the case of weather events and congestion and to provide wayfinding in Tahoe City have the potential to affect scenic vistas. These projects would be subject to the TRPA Design Review Guidelines and to local design constraints where present. Additionally, Mitigation Measure 3.1-9b from the 2012 RTP/SCS EIR/EIS, which addresses project design review, would apply to above-grade, permanent project components to ensure they would be composed in relation to the landscape. Project specific design features and/or mitigation would be necessary for signage and other traffic management components to reduce impacts to a less-than-significant level.

With all these projects, there is potential for visual clutter that could interfere with scenic vistas. Projects implemented under the 2020 RTP/SCS would be similar in size, location, and type to those analyzed in the 2012 EIR/EIS and the 2017 IS/IEC. Construction of projects proposed under the 2020 RTP/SCS have the potential to result in temporary impacts to scenic quality. Mitigation Measure 3.9-1a from the 2012 RTP/SCS would apply to new and modified projects in the 2020 RTP/SCS and would address short-term construction impacts to scenic resources to ensure construction equipment and projects would be screened and hidden from public view. There is also potential that design for new and modified projects under the 2020 RTP/SCS would impact scenic vistas. Mitigation Measure 3.9-1b from the 2012 RTP/SCS EIR/EIS requires specific design review that considers scenic impact avoidance and/or mitigation for any projects with new or remodeled buildings, large signage, and above-grade trail components to ensure massing and orientation would provide a frame for views, or that sight lines would be considered relative to the placement of these above-grade components. This would ensure designs are modified, if needed, and other project-specific measures are implemented to prevent long-term damage to scenic vistas.

Projects would also be required to adhere to TRPA Design Guidelines, local jurisdictional guidance, and industry standards for excellence in trail design. For example, the TRPA Design Guidelines prioritize using the site to determine design, and require that topography, vegetation, natural features, aspect and orientation, and contextual setting, among other conditions, be considered when designing buildings, structures, and associated facilities that could impact the views from a given site. The TRPA Design Guidelines require that form, mass, and profile of individual buildings and architectural features be designed to blend with the natural terrain. They further recommend specific materials for walls, structures, and other associated features, depending on their context. For example, an architectural wall could fit in an urban environment, where a rough-sawn, cedar fence might be appropriate in a rural transition area or a rock wall in a rural environment. For trails and other linear projects, the detailed design review recommended in Mitigation Measure 3.1-9b, described below, would ensure that all components are harmonious with their surroundings.

Other projects with more prominent architectural or engineering features may require more detailed design review, so that design enhances the visual environment. Specifically, the proposed bridge replacement project at Echo Summit has the potential to obstruct views through the area during construction, although these would be short term, and has the potential to change the nature of views in the area. This project would be subject to Mitigation Measure 3.9-1a during construction and Mitigation Measure 3.9-1b during the design process. Finally, any bridges, elevated paths, trails or walkways, and all new buildings would be subject to Mitigation Measure 3.9-1b, including the parking lot expansions and boat inspection station under the SR 28 Central Corridor Improvements, the Class I Bike Path from East San Bernardino to West San Bernardino in El Dorado County, and the Caltrans Tahoe City Maintenance Station projects, among others.

Overall, substantial and adverse impacts to scenic vistas would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

New projects included in the 2020 RTP/SCS are proposed on SR 28 and U.S. Highway 50, state designated scenic highways, 2020 RTP/SCS These projects have potential to damage scenic resources along a state scenic highway. However, all projects would be subject to the Design Review Guidelines, local planning documents with policies about projects that occur within state scenic highways, including TRPA's guidance to include natural features in project design. Mitigation Measure 3.1-9b from the 2012 RTP/SCS EIR/EIS, which addresses project design review, would apply to above-grade, permanent project components to ensure they would be composed in relation to the landscape and would not impact aesthetic value along scenic highways. Mitigation would be necessary for specific projects that include above-grade components, structures, and other features, such as the bridge replacement project at Echo Summit along U.S. Highway 50, to reduce impacts to a less-than-significant level. New and modified projects under the 2020 RTP/SCS would be subject to 2012 RTP/SCS EIR/EIS Mitigation Measure 3.9-1a during construction and Mitigation Measure 3.9-1b during the design process. These measures would reduce short-term construction impacts to scenic resources along scenic highways and ensure design review is adequate to the specific site in which a project would occur. Mitigation measures would ensure designs are modified, if needed, and other project-specific measures are implemented, such as construction screening to reduce impacts along scenic highways.

Overall, substantial and adverse impacts to scenic highways would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

TRPA's Design Review Guidelines would apply to all projects implemented under the 2020 RTP/SCS. Many of the projects are proposed to increase connectivity and improve wayfinding, improve existing roadway conditions, and implement safety measures, such as signs that limit vehicle speed. In keeping with the TRPA's goal to "maintain and improve the overall quality of the built environment in the Lake Tahoe region," projects would necessarily be subject to the minimum design standards the agency sets forth (TRPA 1989). Furthermore, TRPA recognizes the importance of the appearance and aesthetic features of the communities in the Plan Area, as these communities depend upon the tourism industry, an economic sector driven in large part by the sense of place that the natural and built environments evoke. All proposed projects are intended to increase the visual quality as well as implement transportation goals.

There is potential for components from all projects proposed under the 2020 RTP/SCS to create visual clutter that could temporarily or permanently interfere with visual quality. These include facilities that support new active transportation projects, such as restrooms, fences, and signage; complete streets components that include industrial transportation features (signal lights, signs, etc.); roadway projects that include buildings and bridges; and technology projects that may implement roadway signage as part of the program. For example, the South Tahoe Greenway Shared Use Trail would include elevated boardwalks and bridges. All projects would be required to adhere to TRPA Design Guidelines, local jurisdictional guidance, and industry standards for excellence in trail design, such as those suggested by American Trails (2006), and be subject to Mitigation Measure 3.1-9b to ensure project design and all associated components enhance visual quality.

For example, the TRPA Design Guidelines prioritize using the site to determine design, and require that topography, vegetation, natural features, aspect and orientation, and contextual setting, among other conditions, be considered when designing buildings, structures, and associated facilities that could impact the views from/of a given site. They further require that form, mass, and profile of individual buildings and architectural features be designed to blend with the natural terrain. They also recommend specific materials for walls, structures, and other associated features, depending on their context. For trails and other linear projects, the detailed design review recommended in Mitigation Measure 3.1-9b will ensure that all components are harmonious with their surroundings.

For example, the two proposed Caltrans projects would require detailed design review. The new dormitory building on SR 89 at the Tahoe City Maintenance Station would replace existing buildings that are visible from the roadway, even though a 6-foot fence surrounds the property. The industrial buildings at the site are single-story, rectangular structures with flat roofs. Scattered pine trees occur at the perimeters. Fuel tanks and other maintenance-supporting components are also visible from the roadway. While the new building should conform, generally, to existing structures, the replacement should undergo design review, according to Mitigation Measure 3.1-9b, as there is opportunity to enhance the visual quality on the site.

Similarly, the bridge replacement associated with the Caltrans project on U.S. Highway 50 at Echo Summit would occur in an area with high visual quality and where travelers on the roadway would have very high visual sensitivity. The existing bridge is a combination of concrete and cut granite

that integrates with the mountainside across which it extends. Following the TRPA Design Guidelines, the replacement bridge design should continue to use the granitic rock outcroppings, retain the trees adjacent to the roadway, and ensure bridge components do not interfere with the scenic quality of the site. Implementation of Mitigation Measure 3.1-9b would further ensure project design meets the goals and intent of the TRPA guidelines. Implementation of Mitigation Measure 3.1-9a would ensure that scenic quality is preserved to the extent feasible during construction. With adherence to the guidelines and mitigation measures, impacts to scenic quality would be reduced to a less than significant level.

Additionally, new and modified projects under the 2020 RTP/SCS would be subject to 2012 RTP/SCS EIR/EIS Mitigation Measure 3.9-1a during construction and Mitigation Measure 3.9-1b during the design process. Mitigation Measure 3.9-1a would reduce short-term construction impacts to scenic resources to ensure construction equipment and projects are screened and hidden from public view. Any bridges, elevated paths, trails or walkways, and all new buildings would be subject to Mitigation Measure 3.9-1b, including the parking lot expansions and boat inspection station under the SR 28 Central Corridor Improvements, the Class I Bike Path from East San Bernardino to West San Bernardino in El Dorado County, and the Caltrans Tahoe City Maintenance Station projects, among others. Mitigation Measure 3.9-1b requires specific design review that considers scenic impact avoidance and/or mitigation would be applied to any projects with new or remodeled buildings, large signage, and above-grade trail components to ensure massing and orientation would provide a frame for views, or that sight lines would be considered relative to the placement of these above-grade components. This would ensure designs are modified, if needed, and other project-specific measures are implemented to prevent long-term damage to scenic vistas.

Overall, substantial and adverse impacts to scenic vistas would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Some projects could introduce new sources of light, including trail lighting, safety lights, and lights from vehicles traveling to, from, and through project areas. Light impacts were evaluated in the 2012 EIR/EIS and re-evaluated in the 2017 IS/IEC. Both documents indicate that the existing outdoor lighting standards described in the TRPA Code of Ordinances and other local night sky policies would govern new development. Similarly, new projects listed in the 2020 RTP/SCS would adhere to the lighting standards to reduce impacts that may adversely affect nighttime views. Because projects under the 2020 RTP/SCS will be similar in nature, scale, and location and will require site specific design and mitigation, impacts to new sources of lighting would be less than significant.

Glare occurs when the sun reflects off light-colored surfaces, windows, and the windshields of parked cars. Adherence to the limited color palette prescribed in the TRPA Design Standards would ensure that light-colored surfaces and unshielded glass would not occur, thus preventing glare. Furthermore, while projects could increase the number of visitors, and thus the number of parked cars. Parking management, vegetation screening, and other measures would ensure that there would be limited increase in glare from more parked cars. It is possible that components of new

facilities would have reflective materials as part of their designs. This could include wayfinding and interpretive signage, windows, and building or structure siding and roof materials. These components would be subject to the TRPA and local jurisdictional design guidelines that include using materials that appear natural and blend with the landscape. Mitigation Measure 3.9-1b from the 2012 RTP/SCS EIR/EIS would apply to projects under the 2020 RTP/SCS and requires specific design review that considers visual impact avoidance and/or mitigation, including the use of reflective materials, excessive lighting, and other design attributes that could cause impacts to light and glare. Mitigation Measure 3.9-1b would be applied to any projects with new or remodeled buildings, large signage, and elevated or above-grade trail components to ensure materials are compatible with the surroundings and that they would not create glare or other visual concerns. Mitigation measures from the 2012 RTP/SCS would ensure designs are modified, if needed, and other project-specific measures are implemented to prevent undue generation of light or glare.

Overall, substantial and adverse impacts relative to light and glare would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

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TRPA Environmental Checklist

Section 18 – Scenic Resources/Community Design

a. Will the proposal be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe?

Most of the 2020 RTP/SCS projects would occur near or adjacent to a federal highway or within viewing distance of Lake Tahoe. The discussion of impacts related to visibility of projects is included under CEQA item “a” above. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Overall, substantial and adverse impacts relative to visibility would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

b. Will the proposal be visible from any public recreation area or TRPA designated bicycle trail?

Active transportation projects under the 2020 RTP/SCS would occur near or coincidental with TRPA-designated trails to provide connections and expand the existing trail network. The discussion of impacts related to visibility from public recreation areas and trails is included under CEQA items “a,” “b,” and “c” above. Overall, substantial and adverse impacts relative to public recreation visibility would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

c. Will the proposal block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?

Many of the 2020 RTP/SCS projects would occur within viewing distance of Lake Tahoe or near, adjacent to, or coincidental with public roads and other public areas. The discussion of impacts related to blocking scenic vistas is included under CEQA items "a," "b," and "c" above. Overall, substantial and adverse impacts relative to scenic vistas would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

d. Will the proposal be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?

Most of the 2020 RTP/SCS projects have primary components that occur at-grade, but some may include above-grade components, such as signage, restrooms, barrier fences, and other associated features. Each project would be subject to TRPA design review and would be required to comply with TRPA Design Guidelines, as well as local ordinances and guidelines. The discussion of impacts related to design standards is included under CEQA items "a," "b," and "c" above. All projects would be subject to Mitigation Measure 3.1-9b to ensure massing, height, and other design elements would enhance visual quality, consistent with applicable ordinances, design guidelines, and the TRPA Thresholds. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

NO WITH MITIGATION

e. Will the proposal be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?

Each 2020 RTP/SCS project would be subject to TRPA design review and would be required to comply with TRPA Design Guidelines, as well as local ordinances and guidelines. All projects would be subject to Mitigation Measure 3.1-9b to ensure they meet or exceed the SQIP and Visual Quality Thresholds. The discussion of impacts related to design standards is included under CEQA items "a," "b," and "c" above. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

NO WITH MITIGATION

Section 7 – Light and Glare

a. Will the proposal include new or modified sources of exterior lighting?

Specific projects may include additional exterior lighting, particularly complete streets and active transportation projects. The discussion of impacts related to lighting are included under CEQA item "d" above. Overall, substantial and adverse impacts relative to exterior lighting would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

g. Will the proposal create new illumination which is more substantial than other lighting, if any, within the surrounding area?

Specific projects may include additional exterior lighting, particularly complete streets and active transportation projects. The discussion of impacts related to lighting are included under CEQA item "d" above. Projects would be required to comply with all local and regional exterior lighting ordinances, including dark sky protection criteria (TRPA Code of Ordinances Chapter 13.5.3.5.a through d). In addition, all projects would be subject to Mitigation Measure 3.1-9b to ensure lighting design would be limited to that necessary for safety and not be more than the context in which it is situated. Overall, substantial and adverse impacts relative to illumination would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

h. Will the proposal cause light from exterior sources to be cast off-site or onto public lands?

Specific projects may include additional exterior lighting, particularly complete streets and active transportation projects. The discussion of impacts related to lighting are included under CEQA item "d" above. Compliance with exterior lighting standards would include shielding, downward orientation, and minimal light levels to ensure light does not spill onto adjacent lands, including public lands. Furthermore, projects would be required to comply with all local and regional exterior lighting ordinances, including dark sky protection criteria (TRPA Code of Ordinances Chapter 13.5.3.5.a through d). All projects would also be subject to Mitigation Measure 3.1-9b to ensure lighting design would be limited to that necessary for safety and not be more than the context in which it is situated. Overall, substantial and adverse impacts relative to light from exterior sources would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Although new lighting could occur on public lands where new recreation projects are implemented, with mitigation new significant impacts or substantially more severe impacts would not occur.

NO WITH MITIGATION

i. Will the proposal create new sources of glare through the siting of the improvements or through the use of reflective materials?

Compliance with TRPA's Design Guidelines and other local design policies, and implementation of Mitigation Measure 3.9-1b from the 2012 EIR/EIS, would ensure that materials used on any structures, signage, and road components would not be reflective or generate glare. The discussion of impacts related to glare are included under CEQA item "d" above. All projects would be subject to Mitigation Measure 3.1-9b to ensure architectural finishes and design fit the context in which they occur (i.e., urban, rural transition, rural) per the TRPA Design Guidelines (TRPA 1989). Overall, substantial and adverse impacts relative to glare would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

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2 Agriculture & Forestry Resources

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
j. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	2012 RTP/SCS EIR/EIS Section 5.1.1	No	No	No	N/A
k. Conflict with existing zoning for agricultural use or a Williamson Act contract?	2012 RTP/SCS EIR/EIS Section 5.1.1	No	No	No	N/A
l. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	2012 RTP/SCS EIR/EIS Section 5.1.1	No	No	No	N/A
m. Result in the loss of forest land or conversion of forest land to non-forest use?	2012 RTP/SCS EIR/EIS Section 5.1.1	No	No	No	N/A

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
n.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	2012 RTP/SCS EIR/EIS Section 5.1.1	No	No	No	N/A

Discussion

Agricultural Resources are discussed in the 2012 EIR/EIS Section 5.1.1, *Effects Not Found to Be Significant* as no land is currently designated for agricultural use in the Plan Area. Impacts related to forestry resources are discussed in Section 4, *Biological Resources,* and impacts related to land use and zoning are discussed in Section 11, *Land Use and Planning*, of this IS/IEC.

CEQA Environmental Checklist

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

There is no land zoned for agricultural use in the Plan Area (TRPA 2020a). Similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC, there would be no impact to important farmland under the 2020 RTP/SCS. No new significant impacts or substantially more severe impacts would occur.

NO IMPACT

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

There is no land zoned for agricultural use in the Plan Area (TRPA 2020a). Similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC, there would be no impact to agricultural uses or a Williamson Act contract under the 2020 RTP/SCS. No new significant impacts or substantially more severe impacts would occur.

NO IMPACT

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

The Plan Area includes no lands zoned for timber production (TRPA 2020c). Please refer to Section 4, *Biological Resources,* for a discussion of forest land in the Plan Area. Development under the 2020 RTP/SCS would primarily be concentrated in existing community centers that are largely developed or previously disturbed and would likely require less tree removal than new uses outside of urban areas. Any proposed transportation or land use project that proposes tree removal would require permits and compliance with TRPA's Code of Ordinances Section 33.6, *Vegetation Protection During Construction*. Additionally, specific provisions for tree removal in the Plan Area are provided in the TRPA Code (Chapter 61, and Chapters 36, 33, 62) and all tree removal for trees greater than 14 inches dbh requires review and approval by TRPA. TRPA's existing policies and Code provisions would require development and implementation of project-specific measures to minimize or avoid impacts to forestland. Therefore, projects proposed under the 2020 RTP/SCS do not conflict with the use of forest land, timberland, or timberland zoned Timberland Production. Similar to the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC, there would be no impact to forestland or timberland under the 2020 RTP/SCS. No new significant impacts or substantially more severe impacts would occur.

NO IMPACT

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

Projects and policies implemented under the 2020 RTP/SCS may result in removal of individual trees but would not result in the conversion of forest land to non-forest use, similar to projects included in the 2012 and 2017 RTP/SCS. As discussed under CEQA item "c" new and modified projects under the 2020 RTP/SCS would adhere to the TRPA Code and existing policies for forest and tree protection. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

There is no land zoned for agricultural use in the Plan Area and, similar to the 2012 RTP/SCS and 2017 update, the 2020 RTP/SCS projects do not conflict with lands zoned as forest land or timberland. There would be no conversion of farmland to non-agricultural use or forest land to non-forest use. No impact would occur, similar to the findings of the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO IMPACT

TRPA Environmental Checklist

There are no TRPA environmental checklist items specific to this topic.

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3 Air Quality

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Conflict with or obstruct implementation of the applicable air quality plan?	2012 RTP/SCS EIR/EIS Impact 3.4-1	No	No	No	N/A
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	2012 RTP/SCS EIR/EIS Impact 3.4-2 and Impact 3.4-3	No	No	No	Yes
c. Expose sensitive receptors to substantial pollutant concentrations?	2012 RTP/SCS EIR/EIS Impact 3.4-4 and Impact 3.4-5	No	No	No	Yes
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	2012 RTP/SCS EIR/EIS Impact 3.4-6	No	No	No	N/A
TRPA Environmental Checklist: Section 2 – Air Quality					
Will the proposal result in:					
a. Substantial air pollutant emissions?	2012 RTP/SCS EIR/EIS Impact 3.4-7	No	No	No	N/A
b. Deterioration of ambient (existing) air quality?	2012 RTP/SCS EIR/EIS Impact 3.4-	No	No	No	Yes

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
	2 and Impact 3.4-3				
c. The creation of objectionable odors?	2012 RTP/SCS EIR/EIS Impact 3.4-6	No	No	No	N/A
e. Increased use of diesel fuel?	2012 RTP/SCS EIR/EIS Impact 3.4-2 and Impact 3.4-3	No	No	No	Yes

Discussion

The analysis in this section is based on the Air Quality Study prepared for the 2020 RTP/SCS by Rincon in August 2020. For detailed information on air quality background, assumptions, and model outputs, please see Appendix E.

Air Quality Background

The Plan Area lies in the Lake Tahoe Air Basin (LTAB), which is primarily a depression between the crests of the Sierra Nevada and Carson ranges at a surface elevation of 6,260 feet above sea level. The mountains surrounding Lake Tahoe are approximately 8,000 to 9,000 feet high, with some reaching over 10,000 feet.

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants, referred to as "criteria pollutants." Under these laws, the U.S. Environmental Protection Agency (USEPA) and the CARB have established ambient air quality standards (AAQS) for criteria pollutants. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory) into the atmosphere and include carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gasses (ROG)[5], nitrogen oxides (NO_X), fine particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2) and lead (Pb). Secondary criteria pollutants are created by atmospheric chemical and photochemical reactions. ROG, together with NO_X, form the building blocks for the creation of photochemical (secondary) pollutants. Secondary pollutants include

5 CARB defines VOC and ROG similarly as, "any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the term ROG is used in this report.

oxidants, ozone, and sulfate and nitrate particulates (smog). Air quality specific criteria pollutants is monitored throughout the Plan Area as shown in Table 3.

Table 3 Air Quality Monitoring in the Plan Area

Monitoring Agency	Location	Pollutants Measured
TRPA	Lake Tahoe Community College[1]	$PM_{2.5}$, PM_{10}, visibility
TRPA	TRPA offices, Stateline	$PM_{2.5}$; CO; NO; ozone
USFS	DL Bliss State Park[1]	$PM_{2.5}$, PM_{10}, visibility
Placer County	Tahoe City[2]	Ozone and $PM_{2.5}$
Washoe County	Incline Village	Ozone
CARB	South Lake Tahoe	Ozone and PM_{10}

[1] Part of national IMPROVE network

[2] Paid for in part by TRPA

NO = nitrogen oxide

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

Regulations

FEDERAL

The federal CAA governs air quality in the U.S., administered by the USEPA. Air quality in California is also governed by regulations under the California CAA, which is administered by the CARB at the State level. At the regional and local levels, local air districts such as Air Quality Management Districts (AQMD) and air pollution control districts (APCD) typically administer the federal and California CAAs. The LTAB is currently in attainment of all NAAQS and CAAQS except for the State PM_{10} standard. The LTAB is a designated maintenance area for CO under the federal CAA.

Pursuant to 176(c) of the federal CAA (42 United States Code Section 7506(c)), Metropolitan Planning Organizations (MPO) and the U.S. Department of Transportation (USDOT) must make a determination that the RTP and the Regional Transportation Improvement Program (RTIP) conform to the SIP for air quality. Section 176(c) of the CAA, as amended (42 United States Code 7401 et seq.) prohibits agencies of the Federal government from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. The transportation conformity regulations provided in CFR Title 40, Chapter I, Part 51, Subpart T, Section 51.392-51.400, 51.404, 51.410-51.450, 51.460, and 51.462 were adopted by Placer County APCD in Rule 509 and El Dorado County AQMD in Rule 503; however, Placer County ACPD Rule 509 exempts the Lake Tahoe Air Basin portion in Placer County from compliance with this rule. Currently, the Plan Area is in conformance for all criteria pollutants under federal air quality standards.

On September 27, 2019, the USEPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The Part One Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, the CARB released off-model adjustment factors on November 20, 2019 to adjust criteria air pollutant emissions outputs from CARB's Emission Factor model (EMFAC) (CARB 2019a).

STATE

In California, CARB is responsible for meeting the State requirements of the federal CAA, administering the California CAA, and establishing CAAQS. The California CAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. More recently, CARB developed a new certification fuel for 2015 and newer vehicles, which contains 10 percent ethanol by volume (E10). In addition, the California Legislature enacted SB 656 to reduce public exposure of airborne particulate matter in 2003, which required the CARB to develop and adopt a list of readily available, feasible and cost-effective control measures that could be employed by the CARB and local air districts. The CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

In 2004, the CARB approved a revision to the SIP that consists of an update to CO maintenance plan for ten areas within California that had attained the federal air quality standard for CO since the early 1990s. This included North Lake Tahoe and South Lake Tahoe. The 2004 revisions to the Maintenance Plan (2004 CO Maintenance Plan) were an update to the 1998 Carbon Monoxide Maintenance Plan and show how attainment would be maintained through 2018 and beyond. Part of the maintenance strategy involves allocation of transportation emissions budgets to the maintenance areas as approved by the USEPA. On March 21, 2018, the USEPA issued a letter stating that as of June 1, 2018, transportation conformity requirements no longer apply for the CO NAAQS for Federal Highway Administration/Federal Transit Association projects as defined in 40 CFR 93.101 in California because the standard 20-year maintenance planning period per 40 CFR 93.102(b)(4) ended and the maintenance plan did not specify a longer maintenance period (USEPA 2018). Therefore, the Plan is in attainment with the SIP.

On April 3, 2012, the State of Nevada submitted a second 10-year limited maintenance plan (LMP) for the Lake Tahoe Nevada Area for the CO NAAQS to the USEPA. An LMP is an option whereby an area's maintenance demonstration is considered to be satisfied for "not classified" areas if the monitoring data show the design value is at or below 7.65 ppm, or 85 percent of the level of the 8-hour CO NAAQS. The 2012 LMP addressed maintenance of the CO NAAQS for a second 10-year period beyond the original 10-year maintenance period, which began in 2003 when the State of Nevada submitted a resignation request for the Lake Tahoe Nevada Area from nonattainment to attainment for the CO NAAQS. On August 26, 2016, the State amended the 2012 submittal with a supplemental SIP submittal, and thereby approved the 2012 plan.

LOCAL

Attainment of air quality standards in the Lake Tahoe Region is under the jurisdiction of the TRPA Bi-State Tahoe Regional Planning Compact, which works with local air districts (El Dorado County AQMD and Placer County APCD) to assure compliance with TRPA threshold standards and federal, state, and local standards for air quality and visibility. The TRPA Bi-State Compact recognizes air as a natural resource and requires that TRPA establish environmental threshold carrying capacity standards for air quality. The Bi-State Compact directs TRPA to develop a land use plan that considers air resources, as well as a transportation plan that reduces air pollution from motor vehicles. TRPA is also required to attain federal, state, and local air quality standards for the portions of the Plan Area in which they apply. The Air Quality Sub-element and Transportation Element of the TRPA Regional Plan establish goals and policies to achieve and maintain TRPA's air quality thresholds and all applicable federal, state, and local standards for air quality.

In addition to existing permit limits, TRPA has developed a best construction practices policy for construction emissions, pursuant to the requirements of 2012 RTP/SCS EIR/EIS mitigation measures adopted by the TRPA Governing Board. The policy and related conditions were approved at the November 20, 2013 meeting of the TRPA Governing Board. The policy addresses construction-generated emissions of air pollutants and GHGs associated with development under the Lake Tahoe Regional Plan. The overall effectiveness of these measures and other efforts to attain and maintain air quality standards continue to be monitored through a comprehensive multi-agency air quality program.

Significance Thresholds

TRPA

TRPA also has its own air quality standards, which can be found as a part of the 2015 Threshold Evaluation Report, which was released by TRPA in September 2016. This updated the 2011 Threshold Evaluation Report used in the 2012 RTP/SCS EIR/EIS to determine the region's attainment of TRPA AAQS. The report generally found that air quality in the region either remained the same or improved for most pollutant standards, similar to the designations made in 2011 except for the highest 8-hour average concentration of ozone, which moderately improved since 2011 but had not met TRPA targets. In the 2011 Threshold Evaluation Report, TRPA's standards for 8-hour concentration of ozone were met. TRPA targets for the 24-hour PM_{10} concentration were not met in either the 2011 or 2016 Threshold Evaluation Report. CO targets were met despite the changes to TRPA's threshold standard for CO. There has been no subsequent update to the 2015 Threshold Evaluation Report since the 2017 RTP/SCS. TRPA's air quality threshold standards and how they address CAAQS and NAAQS for LTAB regional air quality are shown in Table 2 of Appendix E.

PLACER COUNTY APCD

On October 13, 2016, Placer County APCD adopted revised CEQA thresholds of significance for criteria pollutant emissions (Placer County APCD 2016a). The revised thresholds are supported by Placer County APCD's *California Environmental Quality Act Thresholds of Significance Justification Report* released in September 2016 (Placer County APCD 2016b) and were used in the evaluation of impacts related to the 2017 RTP/SCS IS/IEC occurring within the Placer County portion of the LTAB. Based on the Placer County APCD thresholds of significance, a project would result in a significant project-level air quality impact if any of the following would occur:

- A net increase in short-term construction-related emissions of ROG, NO_X, or PM_{10} that exceeds mass emissions of 82 pounds per day in Placer County
- A net increase in long-term operation-related (regional) emissions of ROG or NO_X that exceeds mass emissions of 55 pounds per day or a net increase in long-term operation-related (regional) emissions of PM_{10} that exceeds mass emissions of 82 pounds per day in Placer County
- Exposure of sensitive receptors to TAC emissions that would exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) or a non-carcinogenic Hazard Index of 1 for the maximally exposed individual

In addition, a project would result in a cumulatively considerable contribution to a cumulative air quality impact if it would result in a net increase in long-term operation-related (regional) emissions of ROG or NO_X that exceed 55 pounds per day or a net increase in long-term operation-related (regional) emissions of PM_{10} that exceeds 82 pounds per day.

EL DORADO COUNTY AQMD

In February 2002, El Dorado County AQMD adopted CEQA thresholds of significance for criteria pollutant emissions. The revised thresholds are supported by El Dorado County AQMD's *Determining Significance of Air Quality Impact Under the California Environmental Quality Act (CEQA)*, released in February 2002, and were used in the evaluation of impacts related to the 2012 RTP/SCS EIR/IES and 2017 RTP/SCS IS/IEC occurring within the El Dorado County portion of the LTAB. Based on the El Dorado County AQMD thresholds of significance, a project would result in a significant project-level air quality impact if any of the following would occur:

- The project would result in construction or operational emissions of ROG or NO_x in excess of 82 pounds per day. Special requirements for determining significance may apply in the LTAB as imposed by TRPA in interpreting its 0.08 ppm one-hour significance threshold for ozone. However, per El Dorado AQMD guidance, "there is no reason to adopt a more stringent significance threshold for individual projects in the Tahoe region for CEQA purposes in light of the TRPA threshold…because there is no direct relationship between the TRPA threshold, which is expressed as an ozone concentration in parts per million, and the CEQA ozone precursor significance thresholds designated above, which are expressed as mass emissions. Accordingly, the same criteria are considered appropriate for the LTAB portion of the county as well as the Mountain Counties Air Basin portion" (El Dorado AQMD 2002).
- The project would result in construction or operation emissions of other pollutants (PM_{10}, CO, SO_2, NO_2, sulfates, lead, hydrogen sulfide) that could cause or contribute to violations of any applicable NAAQS or CAAQS (including visibility). In the LTAB, the TRPA visibility standard is applied.
- The project would result in construction or operational emissions of TACs that cause a lifetime cancer risk greater than one in one million (10 in one million if best available control technology for TACs is applied), or ground-level concentrations of non-carcinogenic toxic air contaminants with a Hazard Index greater than 1.

The El Dorado CEQA Guide also outlines the following qualitative criteria that would result in a project being found significant:

- The project triggers any of the air quality significance criteria in Appendix G of the *CEQA Guidelines*

- The project results in excessive odors, as defined under the California Health & Safety Code definition of an air quality nuisance
- The project results in land use conflicts with sensitive receptors, such as schools, elderly housing, hospitals, or clinics, etc.
- The project, as proposed, is not in compliance with all applicable El Dorado County AQMD rules and regulations
- The project does not comply with USEPA general and transportation conformity regulations

In addition, according to El Dorado County AQMD, a project would result in a considerable contribution to a cumulative impact to air quality if one or more of the following conditions is met:

- The project would require a change in the land use designation (general plan amendment or rezone) that increases ROG and NO_x emissions as compared to the prior approved use
- The project would individually exceed the project-level significance thresholds for ROG or NO_x
- For potentially significant air quality impacts, the lead agency for the project does not require the project to implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan
- The project is in a jurisdiction that does not implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan
- For PM_{10}, SO_2, and/or NO_2:
    - The project is primarily an industrial project or the majority of the emissions of these pollutants is attributable to stationary sources of air pollution subject to regulation by El Dorado County AQMD and one or more of the following conditions are met:
        - Project-level emissions of these pollutants are significant
        - The project would not comply with all applicable rules and regulations of El Dorado County AQMD
        - A modeling analysis indicates that the project's impacts would exceed Class III Prevention of Significant Deterioration (PSD) increments (Class II in Lake Tahoe)
    - The project is primarily a development project or the majority of the emissions of these pollutants is attributable to motor vehicle sources and one or more of the following conditions are met:
        - Project-level emissions of these pollutants are significant
        - The project would not comply with all applicable rules and regulations of El Dorado County AQMD
        - Project emissions are not cumulatively significant for ROG, NO_X, and CO
- The combined TAC concentrations from multiple projects creates a composite lifetime cancer risk greater than one in one million (10 in one million if best available control technology for TACs is applied), or ground-level concentrations of non-carcinogenic toxic air contaminants with a Hazard Index greater than 1. However, in the event that the project-level cancer risk is less than one in one million and the non-cancer Hazard Index is less than 0.5, a project is considered to be a *de minimis* contributor to the cumulative risk, and the project's contribution to the cumulative impact would not be cumulatively considerable.

Methodology

SHORT-TERM EMISSIONS METHODOLOGY

Emissions from construction activities represent temporary impacts that are typically short in duration depending on the size, phasing, and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related emissions are speculative at the RTP/SCS level because such emissions are dependent on the characteristics and timing of individual development projects. However, because construction of the 2020 RTP/SCS would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, a qualitative analysis is provided.

LONG-TERM EMISSIONS METHODOLOGY

For this analysis, the baseline year was updated to 2018 from the 2014 baseline year used in the 2017 RTP/SCS IEC/IS to accommodate new VMT estimates that characterize updated existing conditions and use TRPA's recently updated Travel Demand Model. The planning horizon for the 2020 RTP/SCS has been updated to 2045, which is five years longer than the previous projection year of 2040 under the 2017 RTP/SCS.

Air emissions from on-road mobile sources were calculated using emission factors from CARB's EMFAC2017 model, off-model adjustment factors to account for the effects of the SAFE Vehicles Rule, and regional vehicle miles travelled (VMT) from TRPA's Travel Demand Model, shown in Table 4. Consistent with the methodology used in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS, TRPA assumes that the vehicle fleet information contained in the EMFAC model for the Lake Tahoe subareas of Placer and El Dorado counties would be representative of vehicles throughout the LTAB because the factors that determine vehicle choice (e.g., lifestyle, mobility, environmental, and local economic factors) do not differ dramatically throughout the region. Therefore, for the purposes of modeling mobile source criteria pollutant emissions, VMT in Nevada was distributed proportionally between the Lake Tahoe subareas of Placer and El Dorado counties based on VMT for the two counties, to conservatively account for Nevada emissions.

Table 4 2020 RTP/SCS VMT Data

	Annual Daily Average VMT		
	Eastern El Dorado County (South Shore)	Eastern Placer County (North Shore)	Nevada
2018	522,021	271,521	627,211
2035	533,108	269,873	530,476
2045	548,515	272,966	532,994

VMT = vehicle miles traveled

Source: TRPA 2020d

The USEPA approved the use of EMFAC2017 for transportation conformity in California on August 15, 2019 (Federal Register Volume 84, Number 158, EPA-R09-OAR-2019-0472). EMFAC emission factors are established by the CARB and accommodate mobility assumptions (e.g., vehicle fleets, speed, delay times, average trip lengths, time of day and total travel time) provided by TRPA's Travel Demand Model and socioeconomic growth projections based on data from the UCLA Anderson Forecast, California Department of Finance, California Board of Equalization, California Energy Commission, U.S. Department of Energy, Energy Information Administration, and U.S. Bureau of

Economic Analysis. Since the 2017 RTP/SCS IEC/IS was generated, CARB released EMFAC2017. This replaced EMFAC2014, the model that was used in the 2017 RTP/SCS IS/IEC to estimate mobile source emissions in California. EMFAC2017 accounts for updated fleet characterization, vehicle activity profile, and socio-econometric forecasting data; new vehicle testing data for emission rates; updated assumptions on the Advanced Clean Cars regulation; and implementation of new regulations and policies including Phase 2 GHG standards for heavy-duty vehicles and the Road Repair and Accountability Act of 2017 (SB 1). Table 9 of Appendix E provides a comparison of weighted average running exhaust emissions factors for the LTAB region using EMFAC2014, which was utilized to model emissions in the 2017 RTP/SCS IS/IEC and EMFAC2017, which is used in this analysis. Weighted average running exhaust emission factors in EMFAC2017 are generally higher than those of EMFAC2014 except for those for ROG and SO_X. To account for the effects of the SAFE Vehicle Rule on mobile source criteria air pollutant emissions, off-model adjustment factors published by the CARB (2019) were applied to NO_X exhaust, PM exhaust, and CO exhaust emissions from gasoline-powered passenger cars (LDA) and light duty-trucks (LDT1, LDT2, and MDV). Projected vehicle emissions on the TRPA transportation network for the year 2045 under the 2020 RTP/SCS were compared with emissions estimated for baseline year 2018.

The 2020 RTP/SCS proposes one new water taxi project (the North Shore Water Taxi Project Phase 2035), which would replicate the existing South Shore water taxi service for destinations on the North Shore. Emissions from the proposed Northshore Water Taxi Project Phase 2035 were estimated using Sacramento Metropolitan AQMD's Harbor Craft, Dredge and Barge Emission Factor Calculator, which is based on the CARB's Harbor Craft Database. To estimate watercraft emissions, project information, vessel type, and engine type were input into the Emission Factor Calculator. Based on existing South Shore water taxi service, it was assumed the North Shore water taxi would operate for eight hours a day, seven days a week between June 1 and September 30 each year. Emissions from the North Shore Water Taxi Project Phase 2035 were added to the waterborne transit emissions estimated in the 2012 RTP/SCS EIR/EIS to provide a conservative estimate of impacts associated with the 2020 RTP/SCS.

CEQA Environmental Checklist

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

For the California portion of the LTAB, the applicable federal air quality maintenance plan for Lake Tahoe is the Carbon Monoxide Maintenance Plan (CO Maintenance Plan) originally adopted in 1996 and revised in 2004 (CARB 2004). The CO Maintenance Plan tiers off the Regional Transportation Plan – Air Quality Plan, adopted by TRPA in 1992. However, as of June 1, 2018, transportation conformity requirements no longer apply for the CO NAAQS for federal aid projects as defined in 40 CFR 93.101 in California because the standard 20-year maintenance planning period per 40 CFR 93.102(b)(4) has ended and the maintenance plan does not specify a longer maintenance period (USEPA 2018). Therefore, no air quality plans are applicable to the 2020 RTP/SCS. As such, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction

The LTAB is currently in attainment of all NAAQS and CAAQS except for the PM_{10} CAAQS. The types of short-term construction-generated emission activity would generally be the same under the 2020 RTP/SCS as the 2017 RTP/SCS because the differences between the 2017 RTP and the 2045 RTP consist of adding new projects, modifying several projects that remain on the list, and removing projects that have been completed since 2017. The new projects are similar in type to those included in the 2017 RTP/SCS and include construction of bikeways, trails, sidewalks; installation of complete streets improvements and variable speed signs; improvements to parking management and wayfinding; and operation and maintenance activities for existing roadways and transit, bicycle, and pedestrian facilities. The 2045 RTP would also include the remaining 92 yet-to-be-completed projects as under the 2017 RTP/SCS, some of which are currently being implemented.

One of the two largest infrastructure construction projects in the 2012 RTP, State Route 89/Fanny Bridge Community Revitalization Project, has been approved and construction has been initiated since adoption of the IS/IEC in 2017. As discussed in the 2017 RTP/SCS IS/IEC, although the 2012 RTP EIR/EIS concluded that project-related construction impacts on air quality would be significant and unavoidable, a project-level analysis of the SR 89/Fanny Bridge concluded that construction-related ROG, NO_X, PM_{10}, $PM_{2.5}$, and CO emissions would be less than significant (see Impact 4.2-2 of the SR 89/Fanny Bridge EIR/EIS/EA [TRPA 2015]). Projects listed in the 2020 RTP/SCS would be constructed at an equivalent or smaller scale than the Route 89/Fanny Bridge Community Revitalization Project, based on current project descriptions and a comparison of anticipated construction costs and project type (see TRPA 2020e). Because construction of the Route 89/Fanny Bridge project was determined to have less-than-significant impacts on air quality, project-level construction under the 2020 RTP/SCS would have a similar impact level. This would include construction for all 92 projects identified in the 2017 RTP that remain on the constrained list of projects under the 2020 RTP/SCS, and new projects added to the 2020 RTP/SCS. Therefore, the maximum daily criteria pollutants and precursor emissions generated by construction activities would not exceed air quality standards at the project-level with the implementation of TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS) and compliance with all applicable Placer County APCD or El Dorado County AQMD rules; and construction emissions would not result in a cumulatively considerable net increase in criteria pollutants for which the LTAB is in nonattainment. Overall, substantial and adverse impacts from construction emissions would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

The land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development under the 2020 RTP/SCS is anticipated to increase through the years 2035 and 2045, in keeping with State-mandated housing (Appendix D). This development would accommodate increases to full-time residential population and day and overnight visitors to the Plan Area, which would result in continued and increased use of overnight lodging. Nevertheless, the 2020 RTP/SCS does not

facilitate or propose new residential, commercial, or visitor-serving development and the transportation projects would introduce minimal land use changes. In addition, the growth anticipated in this update is less than that analyzed in the 2012 RTP/SCS EIR/EIS. The 2012 analysis anticipated a 2035 population of 60,365 residents in the Lake Tahoe region; however, the current 2020 regional forecast anticipates a 2045 population of 58,041 residents (Appendix D). Therefore, current population forecast is lower than previously forecasted under the 2012 RTP/SCS EIR/EIS. Regional population increase is therefore expected to be consistent with that estimated during previous planning processes in 2012 and 2017. Because the land use scenario included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Operational Emissions

The LTAB is currently in attainment of all NAAQS and CAAQS except for the PM_{10} CAAQS. Updated emissions modeling results for the 2020 RTP/SCS are summarized in Table 5 for ozone precursors, ROG and NO_X, CO, SO_2, and particulate matter. As shown therein, criteria pollutant emissions modeling for the 2020 RTP/SCS indicates an overall reduction in criteria air pollutants as compared to the 2018 baseline. The estimated reductions in on-road mobile source emissions are primarily due to stricter vehicle emissions standards that will phase in over the planning period as reflected in EMFAC2017 emission factors. Thus, the 2020 RTP/SCS would result in a substantial long-term reduction in criteria air pollutant emissions. The emissions modeling results are similar to those in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS, which estimated overall reductions in criteria air pollutants.

Table 5 2020 RTP/SCS Net Change in Daily Basin-wide Operational Emissions (2018-2045)

	Daily Emissions (lbs/day)					
Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
On-road Mobile Sources[1]	(2,167.8)	(3,446.9)	(15,520.1)	(11.8)	(51.6)	(48.1)
Waterborne Transit[2] and Water Taxi Service[3]	63.9	474.5	471.6	0.7	12.6	12.5
Total Net Change (2018-2045)	**(2,103.9)**	**(2,972.4)**	**(15,048.5)**	**(11.1)**	**(39.0)**	**(35.6)**
Placer County APCD Thresholds	55	55	n/a	n/a	82	n/a
El Dorado County AQMD Thresholds	82	82	n/a	n/a	n/a	n/a
APCD/AQMD Thresholds Exceeded?	No	No	n/a	n/a	No	n/a

	Daily Emissions (lbs/day)					
Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**

( ) denotes a negative number.

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter measuring no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter measuring no more than 2.5 microns in diameter; APCD = Air Pollution Control District; AQMD = Air Quality Management District; n/a = not applicable (The air districts have not adopted thresholds for these pollutants.)

[1] Emission modeling completed using EMFAC 2017 and CARB's off-model adjustment factors to account for SAFE Vehicles Rule implementation.

[2] Waterborne transit emissions were sourced from the 2012 RTP/SCS EIR/EIS and converted to lbs/day assuming ferry operations would occur for a 122-day period between June 1 and September 30 each year.

[3] Emission modeling for the North Shore Water Taxi Project Phase 2035 was completed using Harbor Craft, Dredge and Barge Emission Factor Calculator.

See Appendix E for EMFAC results for Harbor Craft, Dredge and Barge Emission Factor Calculator results.

TRPA's significance criteria for ozone and PM_{10} are based on achieving concentration-based standards for these pollutants. To evaluate how a project or plan would affect regional attainment of concentration-based ambient air quality standards, local air districts frequently rely on mass emission-based significance criteria. However, TRPA has not adopted mass emission-based standards for projects or plans. For example, Placer County APCD considers a project that would generate emissions less than 55 pounds per day of ROG or NO_X, or 82 pounds per day of PM_{10} to not result a cumulatively considerable net increase of ozone and PM_{10}. In addition, El Dorado County AQMD also considers a project that would generate emissions less than 82 pounds per day of ROG or NO_X to not result a cumulatively considerable net increase of ozone and PM_{10}. These mass emission thresholds of significance are tied to Placer County APCD and El Dorado County AQMD air quality attainment planning efforts for the NAAQS and CAAQS, which are as stringent as TRPA threshold standards for ozone and PM_{10}. Thus, it is appropriate to use Placer County APCD and El Dorado County AQMD significance criteria to evaluate whether emissions from the 2020 RTP/SCS would exceed TRPA threshold standards. As shown in Table 5, criteria pollutant emissions would not exceed Placer County APCD and El Dorado County AQMD thresholds, which have been established for ROG, NO_X, and PM_{10} emissions. Therefore, operational emissions associated with the 2020 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state air quality standards, and impacts would be less than significant, similar to those identified in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would adhere to local air district standards, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

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c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Exposure of sensitive receptors to elevated localized concentrations of CO or TAC emissions could result in adverse health impacts. Impacts related to each of these pollutants are discussed in the following subsections.

CO Impacts

With respect to localized CO impacts, the Transportation Project-Level Carbon Monoxide Protocol (Garza et al. 1997) states that signalized intersections that operate at an unacceptable level of service (LOS) represent a potential for a CO violation, also known as a "hot spot." Thus, an analysis of CO concentrations is typically recommended for receptors located near signalized intersections that are projected to operate at LOS E or F.

Consistent with the approach of the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC, screening criteria are used to evaluate the potential for localized CO impacts in the event that signalized intersections are projected to operate at LOS E or F. Because TRPA, Placer County APCD, and El Dorado County AQMD have not adopted specific thresholds for evaluating the potential for local CO hotspots, this analysis utilizes the Bay Area Air Quality Management District (BAAQMD) screening criteria. Adjusting for the more stringent 8-hour CO standards for the Lake Tahoe area (6 ppm vs. 9.0 ppm [i.e., a 33 percent decrease]), it is appropriate to use the adjusted-BAAQMD screening method for screening of CO impacts for intersections in the LTAB. The applicable screening criteria are as follows (BAAQMD 2017):

- The project would not result in an affected intersection experiencing more than 29,333 vehicles per hour (vph) (reduced by 33 percent from 44,000 vph for the Bay Area)
- The project would not result in an affected intersection experiencing more than 16,000 vph where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (reduced by 33 percent from 24,000 vph for the Bay Area)

Under the 2020 RTP/SCS and according to the traffic analysis prepared by Kittleson and Associates (2020), all affected intersections would operate at LOS D or better by 2045. In addition, although several roadway segments would operate at LOS E or F by 2045, none of studied roadway segments would experience peak hour volumes greater than 4,400 vph. Therefore, the 2020 RTP/SCS would not expose sensitive receptors to substantial CO emissions, and impacts would be less than significant, similar to those identified in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IEC/IS. As a result, because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would meet screening criteria standards for CO, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

TAC Impacts

The 2020 RTP/SCS would implement VMT-reducing projects and programs that are designed to reduce associated air pollutant emissions by promoting more efficient travel patterns, facilitating the use of active transportation, and enhancing and expanding transit service. The construction and operation of projects would comply with federal and state regulations, the TRPA Code of Ordinances, and other applicable rules including the TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS). Projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS and would result in TAC impacts similar to those under the 2012 RTP/SCS and the 2017 RTP/SCS. In addition, implementation of Mitigation Measure 3.4-5 from the 2012 RTP/SCS EIR/EIS would continue to be required for the 2020 RTP/SCS. Overall, substantial and adverse impacts from TACs would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS

and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

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d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS and would not include any major sources of odors because the project types are not those types of facilities known to produce odors such as landfills or wastewater treatment facilities. In addition, no substantial, existing odor sources are in the LTAB. Odors associated with diesel exhaust from the use of on-site construction equipment would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. New bus fleets proposed under the 2020 RTP/SCS will be either electric or hydrogen fuel, reducing odors from diesel fuel use in the Plan Area. Finally, implementation of the 2020 RTP/SCS does not include the siting of new sensitive receptors. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would adhere to local air district standards, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 2 – Air Quality

a. Will the proposal result in substantial air pollutant emissions?

The 2020 RTP/SCS would implement VMT-reducing projects and programs that are designed to reduce associated air pollutant emissions by promoting more efficient travel patterns, facilitating the use of active transportation, and enhancing and expanding transit service. The construction and operation of projects would comply with federal and state regulations, the TRPA Code of Ordinances, and other applicable rules including the TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS). As discussed under CEQA item "b," construction and operational emissions associated with the 2020 RTP/SCS would not exceed Placer County APCD or El Dorado County AQMD thresholds and would not, therefore, result in substantial air pollutant emissions in either California or Nevada. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO WITH MITIGATION

b. Will the proposal result in deterioration of ambient (existing) air quality?

The 2017 RTP/SCS IS/IEC determined that the 2017 RTP/SCS program of projects were not of sufficient size to significantly alter air quality of the local project area or the Lake Tahoe Region. The 2020 RTP/SCS proposes projects of similar scope and size to those included in the 2017 RTP/SCS. Thus, implementation of projects included in the 2020 RTP/SCS would not result in the alteration of air movement, moisture, temperature, or other ambient air quality factors. Potential changes to the climate because of GHG emissions are evaluated in Section 8, *Greenhouse Gas Emissions*. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Will the proposal result in the creation of objectionable odors?

As discussed under CEQA item "d," projects included in the 2020 RTP/SCS would not include any major sources of odors and would not include the siting of new sensitive receptors near existing odor sources. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

f. Will the proposal result in increased use of diesel fuels?

The 2017 RTP/SCS IS/IEC concluded that the anticipated increase in diesel fuel consumption would not be sufficient to result in significant air quality impacts. The 2020 RTP/SCS proposes projects of similar scope and size to those included in the 2017 RTP/SCS. As discussed under CEQA items "b" and "c," these activities would not result in significant air quality impacts, similar to the conclusions of the 2017 RTP/SCS IEC/IS. In addition, new bus fleets proposed under the 2020 RTP/SCS will be either electric or hydrogen fuel, reducing diesel fuel use in the Plan Area. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2017 RTP/SCS IS/IEC.

NO

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4 Biological Resources

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	2012 RTP/SCS EIR/EIS Impact 3.10-4	No	No	No	Yes
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	2012 RTP/SCS EIR/EIS Impact 3.10-1	No	No	No	Yes
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	2012 RTP/SCS EIR/EIS Impact 3.10-1	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	2012 RTP/SCS EIR/EIS Impacts 3.10-3, 3.10-4	No	No	No	Yes
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	2012 RTP/SCS EIR/EIS Impacts 3.10-2	No	No	No	Yes
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	2012 RTP/SCS EIR/EIS Section 5.1.2	No	No	No	N/A
TRPA Environmental Checklist: Section 4 – Vegetation						
Will the proposal result in:						
a.	Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system?	2012 RTP/SCS EIR/EIS Impact 3.7-4	No	No	No	N/A
b.	Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?	2012 RTP/SCS EIR/EIS Impact 3.10-1	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
c.	Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?	2012 RTP/SCS EIR/EIS Section 5.1.2	No	No	No	N/A
d.	Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)?	2012 RTP/SCS EIR/EIS Impacts 3.10-3, 3.10-4	No	No	No	Yes
e.	Reduction of the numbers of any unique, rare or endangered species of plants?	2012 RTP/SCS EIR/EIS Impact 3.10-4	No	No	No	Yes
f.	Removal of stream bank and/or backshore vegetation, including woody vegetation such as willows?	2012 RTP/SCS EIR/EIS Impacts 3.10-2, 3.10-3	No	No	No	Yes
g.	Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications?	2012 RTP/SCS EIR/EIS Impact 3.10-2	No	No	No	Yes
h.	A change in the natural functioning of an old growth ecosystem?	2012 RTP/SCS EIR/EIS Impact 3.10-2	No	No	No	Yes

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
TRPA Environmental Checklist: Section 5 – Wildlife					
Will the proposal result in:					
a. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)?	2012 RTP/SCS EIR/EIS Impacts 3.10-3, 3.10-4	No	No	No	Yes
b. Reduction of the number of any unique, rare or endangered species of animals?	2012 RTP/SCS EIR/EIS Impact 3.10-4	No	No	No	Yes
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	2012 RTP/SCS EIR/EIS Impacts 3.10-3, 3.10-4	No	No	No	Yes
d. Deterioration of existing fish or wildlife habitat quantity or quality?	2012 RTP/SCS EIR/EIS Impacts 3.10-3, 3.10-4	No	No	No	Yes

Discussion

Projects that are new for the 2020 RTP/SCS and may impact biological resources include, but are not limited to, the North Shore Water Taxi Project, the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails, segments of the Nevada Stateline to Stateline Bikeway, the Pope Beach Bike Path, and the Route 89 Class I and Lake Side Phase 2C bike trails. These projects, and other similar active transportation and development projects, would introduce new construction and ground disturbance to previously undisturbed or vegetated areas and thus have the potential to impact biological resources. Other projects include safety improvements and complete streets project improvements such as additions of sidewalks along U.S. Highway 50 from Kingsbury Grade to Lake Parkway as well as rehabilitation of roads, bike, and pedestrian facilities generally within existing urbanized areas and road right of ways. Design and development of these

projects would require site specific environmental analysis conducted by the local jurisdictions, USFS or Caltrans. Projects would also be subject to local jurisdiction biological resources standards including tree protection ordinances as well as state and federal regulations.

Regulatory Framework

TRPA Thresholds

Changes to the environmental setting that have occurred since preparation of the 2012 RTP/SCS EIR/EIS have been documented in the 2015 Threshold Evaluation (TRPA 2016). Vegetation and wildlife threshold standards have remained largely unchanged from 2017 to 2020. Some vegetation communities continue to be in non-attainment, meaning they do not meet applicable target standards for TRPA adopted environmental thresholds. Those include the common vegetation communities of meadow and wetland, deciduous riparian, yellow pine forest, red fir forest as well as some more rare plant communities.

TRPA Code of Ordinances

All projects under the 2020 RTP/SCS would be required to comply with Chapter 61 of the TRPA Code of Ordinances which includes specific standards regarding vegetation, wildlife, and fisheries. Chapter 61, Vegetation and Forest Health, Section 61.3, Vegetation Protection and Management, provides for the protection of stream environmental zone (SEZ) vegetation, other common vegetation, uncommon vegetation, and sensitive plants in SEZs.

Tree removal is subject to review and approval by TRPA. Provisions for tree removal are provided in the following chapters and sections of Chapter 61, Vegetation and Forest Health; Section 61.1, Tree Removal; Section 61.3.6, Sensitive and Uncommon Plant Protection and Fire Hazard Reduction; Section 61.4, Revegetation; Chapter 36, Design Standards; Chapter 33, Grading and Construction; and Section 33.6, Vegetation Protection During Construction.

Chapter 62 of the TRPA Code sets standards for preserving and managing wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas. Specific habitats that are protected include riparian areas, wetlands, and SEZs; wildlife movement and migration corridors; important habitat for any species of concern; critical habitat necessary for the survival of any species; nesting habitat for raptors and waterfowl; fawning habitat for deer; and snags and coarse woody debris. In addition, TRPA special-interest species (also referred to as “threshold species”), which are locally important because of rarity or other public interest, and species listed under the federal Endangered Species Act (ESA) or California ESA are protected from habitat disturbance by conflicting land uses. TRPA special-interest wildlife species are northern goshawk (*Accipiter gentilis*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), mule deer (*Odocoileus hemionus*), and waterfowl species.

Chapter 63, Fish Resources, of the TRPA Code includes provisions for the protection of fish habitat, enhancement of degraded habitat, and prevention of the introduction and spread of aquatic invasive species. Section 63.4 of the TRPA Code, “Aquatic Invasive Species,” states that “Aquatic Invasive Species (AIS) pose a serious threat to the waters of the Lake Tahoe region and can have a disastrous impact to the ecology and economy of the Tahoe region.”

Special Status Species

The California Department of Fish and Wildlife's (CDFW) *California Natural Diversity Database* (CNDDB), California Native Plant Society (CNPS) *Online Inventory of Rare and Endangered Plants*, TRPA GIS data, and USFS GIS data were used as the primary sources to identify and map reported occurrences of special-status species and sensitive natural communities within the Plan Area for the 2012 RTP/SCS EIS/EIR. These databases as well as the U.S. Fish and Wildlife Service's (USFWS) *Information for Planning and Consultation* were consulted in June of 2020 to identify special-status species recorded since the certification of the 2012 RTP/SCS EIS/EIR and adoption of the 2017 RTP/SCS IS/IEC.

CEQA Environmental Checklist

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special-status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the USFWS under the ESA; those considered "Species of Concern" by the USFWS; those listed or proposed for listing as Rare, Threatened, or Endangered by the CDFW under the California ESA; animals designated as "Species of Special Concern" by the CDFW; and CDFW Special Plants, specifically those occurring on lists 1B and 2 of the California Native Plant Society Inventory of Rare and Endangered Vascular Plants of California.

The 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC identified 41 special-status plant species and 40 special-status animal species, known or with potential to occur in the Plan Area (Tables 3.10-4 and 3.10-5 of the 2012 RTP/SCS EIR/EIS). Based on the database search completed for the 2020 RTP/SCS, an additional 11 special-status plant and five special-status animal species were documented as having potential to occur in the Plan Area since 2012 and are shown in Table 6 and Table 7, respectively (CDFW 2020a; 2020b; CNPS 2020; USFWS 2020a).

Table 6 Special Status Plant Species Known to Occur or with Potential to Occur in the Vicinity of the Plan Area since 2012

Scientific Name Common Name	Status Fed/State Global Rank/State Rank CRPR	Habitat Requirements
Artermisia tripartite ssp. tripartita Threetip sagebrush	_/_ G5T4T5/S2 2B.3	Upper montane coniferous forest. Openings in the forest. Rocky, volcanic soils. 2285-2440 m. perennial shrub. Blooms Aug
Astragalus austiniae Austin's astragalus	_/_ G2G3/S2S3 1B.3	Alpine boulder and rock field, subalpine coniferous forest. Rocky. 2440-2965 m. perennial herb. Blooms (May) Jul-Sep
Boechera tularensis Tulare rockcress	_/_ G3/S3 1B.3	Subalpine coniferous forest, upper montane coniferous forest. Rocky slopes. 1825-3355 m. perennial herb. Blooms (May) Jun-Jul (Aug)
Brasenia schreberi watershield	_/_ G5/S3 2B.3	Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 30-2200 m. perennial rhizomatous herb (aquatic). Blooms Jun-Sep

Scientific Name Common Name	Status Fed/State Global Rank/State Rank CRPR	Habitat Requirements
Carex hystericina Porcupine sedge	_/_ G5/S2 2B.1	Marshes and swamps. Wet places, such as stream edges. 605-960 m. perennial rhizomatous herb. Blooms May-Jun
Chaenactis douglasii var. alpine Alpine dusty maidens	_/_ G5T5/S2 2B.3	Alpine boulder and rock field. Open, subalpine to alpine gravel and crevices; granitic substrate. 2362-3355 m. perennial herb. Blooms Jul-Sep
Claytonia megarhiza Fell-fields claytonia	_/_ G5/S2 2B.3	Alpine boulder and rock field, subalpine coniferous forest. In the crevices between rocks, rocky or gravelly soil. 2600-3335 m. perennial herb. Blooms Jul-Sep
Potamogeton epihydrus Nuttall's ribbon-leaved pondweed	_/_ G5/S2S3 2B.2	Marshes and swamps. Shallow water, ponds, lakes, streams, irrigation ditches. 295-2640 m. perennial rhizomatous herb (aquatic). Blooms (Jun)Jul-Sep
Potamogeton robbinsii Robbin's pondweed	_/_ G5/S3 2B.3	Marshes and swamps. Deep water, lakes. 1525-3495 m. perennial rhizomatous herb (aquatic). Blooms Jul-Aug
Rhamnus alnifolia Alder buckthorn	_/_ G5/S3 2B.2	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, riparian scrub. Mesic sites. 1460-2135 m. perennial deciduous shrub. Blooms May-Jul
Utricularia intermedia Flat-leaved bladderwort	_/_ G5/S3 2B.2	Bogs and fens, meadows and seeps, marshes and swamps, vernal pools. Mesic meadows, lake margins, marshes, fens. 670-2655 m. perennial stoloniferous herb (carnivorous) (aquatic). Blooms Jul-Aug

FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
SC = State Candidate Species
SE = State Endangered
ST = State Threatened
SR = State Rare

G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind5.

CRPR (California Rare Plant Rank)

1A = Presumed Extinct in California

1B = Rare, Threatened, or Endangered in California and elsewhere

2 = Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1=Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)

.2=Fairly endangered in California (20-80% occurrences threatened)

.3=Not very endangered in California (<20% of occurrences threatened)

Source: CNDDB (CDFW 2020a; 2020b); CRPR (CNPS 2020); IPaC (USFWS 2020a)

Table 7 Special Status Animal Species Known to Occur or with Potential to Occur in the Vicinity of the Plan Area since 2012

Scientific Name Common Name	Status Fed/State Global Rank/State Rank CDFW	Habitat Requirements
Invertebrates		
Bombus occidentalis Western bumble bee	_/SC G4T1/S1	Once common and widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.
Amphibians		
Ambystoma macrodactylum sigillatum Southern long-toed salamander	_/_ G5T4/S3 SSC	High elevation meadows and lakes in the Sierra Nevada, Cascade, and Klamath mountains. Aquatic larvae occur in ponds and lakes. Outside of breeding season adults are terrestrial and associated with underground burrows of mammals and moist areas under logs and rocks.
Fish		
Xatostomus platyrhynchus Mountain sucker	_/_ G5/S3 SSC	Restricted to the Lahontan drainage system and the north fork of the Feather River. Generally, occupy pool-like habitats. Abundance greatest in areas with dense cover.
Prosopium williamsoni Mountain whitefish	_/_ G5/S3 SSC	Current range in California includes the Lower, Little, and Upper Truckee, East Fork Carson, and East and West Walker river drainages on the east side of the Sierra Nevada, and perhaps the West Fork Carson River as well. They can also be found in natural lakes, including Tahoe, Independence, Cascade, and Fallen Leaf lakes. Frequently shoal in groups of 5 to 20 fish close to the bottom of streams and lakes.
Birds		
Accipiter striatus Sharp-shinned hawk	_/_ G5/S4 WL	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.

FT = Federally Threatened
FC = Federal Candidate Species
FE = Federally Endangered
FS = Federally Sensitive
SE = State Endangered
ST = State Threatened
SR = State Rare
SC = State Candidate Species
G-Rank/S-Rank = Global Rank and State Rank as per NatureServe and CDFW's CNDDB RareFind 5.
SSC = CDFW Species of Special Concern FP = Fully Protected

Sources: CNDDB (CDFW 2020a,2020b); IPaC (USFWS 2020a)

Critical habitat is a USFWS-designated geographic area that is considered essential for the conservation of a threatened or endangered species that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species, but that will be needed for its recovery. Prior to the certification of the 2012 RTP/SCS EIR/EIS no designated critical habitat occurred in the Tahoe Basin. However, in 2016 final critical habitat was designated for the Sierra Nevada yellow-legged frog (*Rana sierrae*) and now overlaps with the southwest portion of the Plan Area (USFWS 2016, 2020b).

Similar to the 2012 and 2017 RTP/SCS, most of the special-status species known or with potential to occur in the Plan Area are not expected to occur in most of the areas impacted by proposed transportation projects or be affected by implementation of the 2020 RTP/SCS. This is because of

the existing levels of disturbance, habitat modifications, and marginal habitat conditions for sensitive species, or lack of recent occurrence records in existing or likely future development areas. However, development projects outside of community centers (e.g., bike and shared use trails) could affect special-status wildlife and plant species. For example, bike trail projects that would traverse more remote areas (e.g., Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails) could encroach into buffer zones around TRPA special interest species, including northern goshawk or osprey, and adversely affect other special-status plant and animal species.

If special-status plants are present in affected areas, construction activities have the potential to result in vegetation removal or trampling, deposition of dust or debris, soil compaction, or disturbance to root systems that could affect their survival. Construction actions could temporarily disturb foraging, movement, and reproductive activities of special-status wildlife species that may occur in project areas. Potentially disturbing activities could include vegetation removal, noise, dust generation, or other project-related components. Construction could also result in noise, dust, and other disturbances to special-status animals in or near individual project sites, resulting in potential site abandonment and mortality to young. Long-term operation and use of proposed trails may disturb or displace special-status wildlife species. At the project-review level, special-status plant and wildlife species with potential to be affected would be determined based on the species' distribution and known occurrences relative to the project area, the presence of suitable habitat for the species in or near the project area, and preconstruction surveys.

New and modified projects under the 2020 RTP/SCS could cause disturbance or displacement resulting in loss of individuals or disruptions to nesting attempts by special-status species and result in potentially significant impacts for species known to be present in the Plan Area. Mitigation Measure 3.10-4 provided in the 2012 RTP/SCS EIR/EIS for pre-construction surveys for special-status plant and animal species would require that special-status species with the potential to occur on individual project sites are accounted for and impacts are avoided, minimized, or compensated. Similar to the 2017 RTP/SCS IS/IEC mitigation would apply to any projects with the potential to adversely impact special-status species and would reduce impacts to a less-than-significant level.

Overall, substantial and adverse impacts to special-status species would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The hydrologic, topographic, and elevation gradients present in the Plan Area support a diverse mix of vegetation communities and wildlife habitats. For example, more than 50 vegetation types and 22 California Wildlife Habitat Relationships System (CWHR) habitat types are recognized in the Plan Area. Figure 6 and Figure 7 show the distribution of these habitat types in the Plan Area. Sensitive habitats in the Plan Area include a variety of wetland and riparian communities such as wet meadows, riparian zones along streams, marshes, seasonal wetlands, drainages, springs, fens, bogs, and deep-water plant communities of Lake Tahoe. TRPA designates most of these communities as

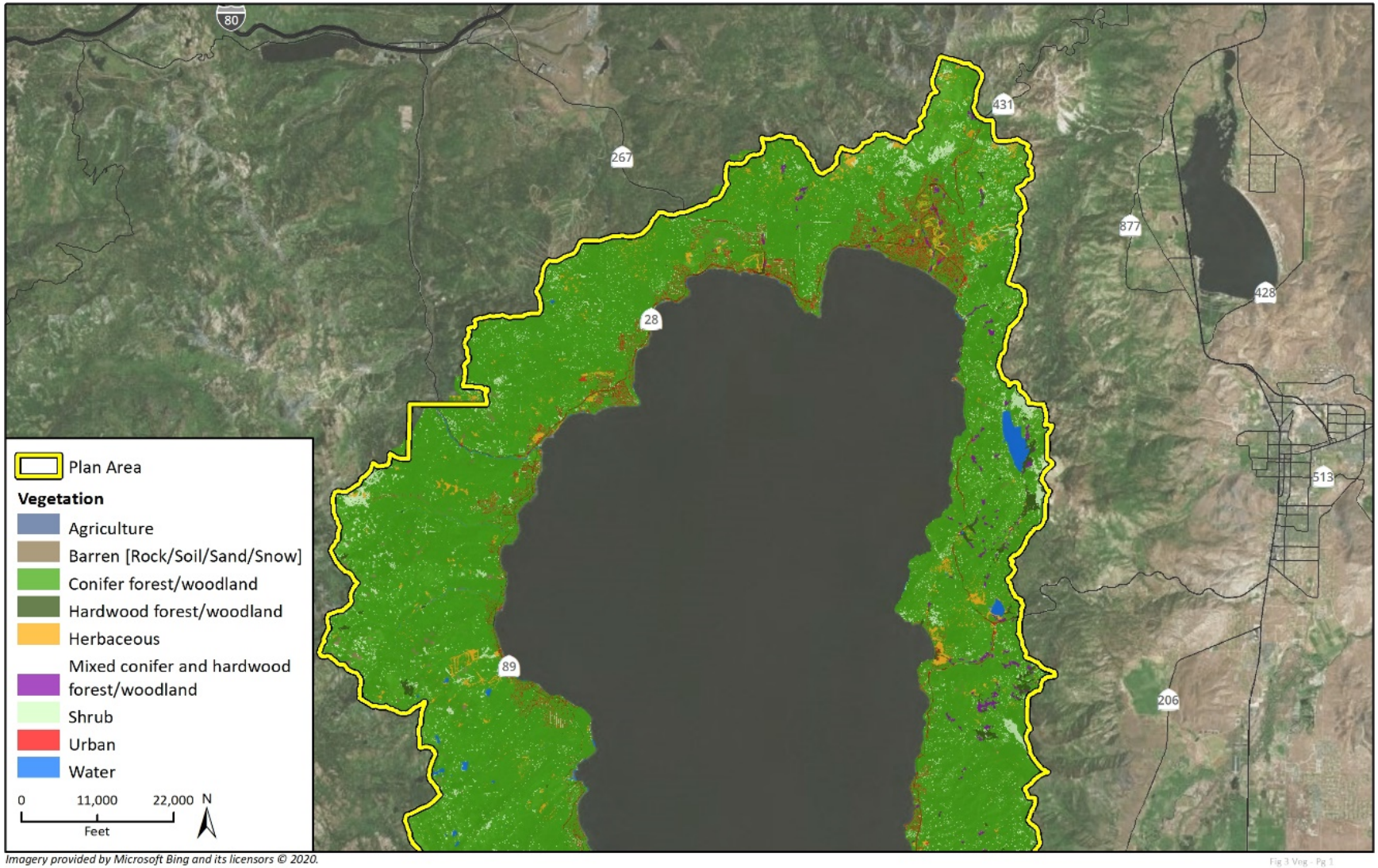
SEZs and habitats of special significance. Other sensitive habitats include late seral/old growth forest.

Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA), the TRPA Code of Ordinances, Sections 1600 et seq. of the California Fish and Game Code, and other applicable regulations. Depending on specific locations of projects, development under the 2020 RTP/SCS could result in the removal or disturbance of sensitive natural communities including riparian habitats and protected wetlands. Most ground disturbances resulting from the construction of transportation facilities would occur within urban areas, existing transportation corridors, and existing subdivisions. Because ground disturbances would be limited mostly to these existing disturbed areas, potential impacts to sensitive habitats could be relatively minor. However, construction-related disturbances could occasionally occur in or otherwise directly or indirectly affect areas that may support sensitive habitats, particularly SEZs, outside of existing disturbed areas.

Most of the SEZ, wetland, and riparian habitats affected by implementation of the 2020 RTP/SCS would likely be considered jurisdictional by U.S. Army Corps of Engineers and, in California, the Lahontan Regional Water Quality Control Board (LRWQCB) under Section 404 of the federal CWA and the state's Porter-Cologne Act. Fill or reconfiguration of jurisdictional waters of the United States requires a permit from U.S. Army Corps of Engineers pursuant to Section 404 of the CWA. In addition, the deciduous riparian vegetation within most or all SEZs would likely be considered jurisdictional habitat by the U.S. Army Corps of Engineers and would need a permit and project-specific mitigation. On the California side of the Plan Area, CDFG has jurisdiction over activities affecting the bed and bank of drainages. Habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) are designated by TRPA as habitats of special significance. The TRPA threshold standard for habitats of special significance is non-degradation while providing for opportunities to increase the acreage of these habitats (TRPA 2019d).

Similar to the 2012 and 2017 RTP/SCS, new development or redevelopment projects could result in the construction-related disturbance or removal of existing wildlife habitats. Vegetation types affected by projects in the 2020 RTP/SCS include: aspen, eastside pine, lacustrine, lodgepole pine, montane chaparral, montane riparian, perennial grassland, Sierran mixed conifer, wet meadow, and white fir. The potential for loss of riparian or sensitive habitats would be potentially significant. Mitigation Measure 3.10-1 provided in the 2012 RTP/SCS EIR/EIS requires vegetation protection and revegetation as well as conducting wetland delineations for projects in areas with sensitive or riparian habitats, such that appropriate individual permits and authorization as well as revegetation plans are in place. Mitigation would apply to new and modified projects proposed under the 2020 RTP/SCS.

Figure 6 Vegetation Communities and Wildlife Habitats in the Northern Plan Area



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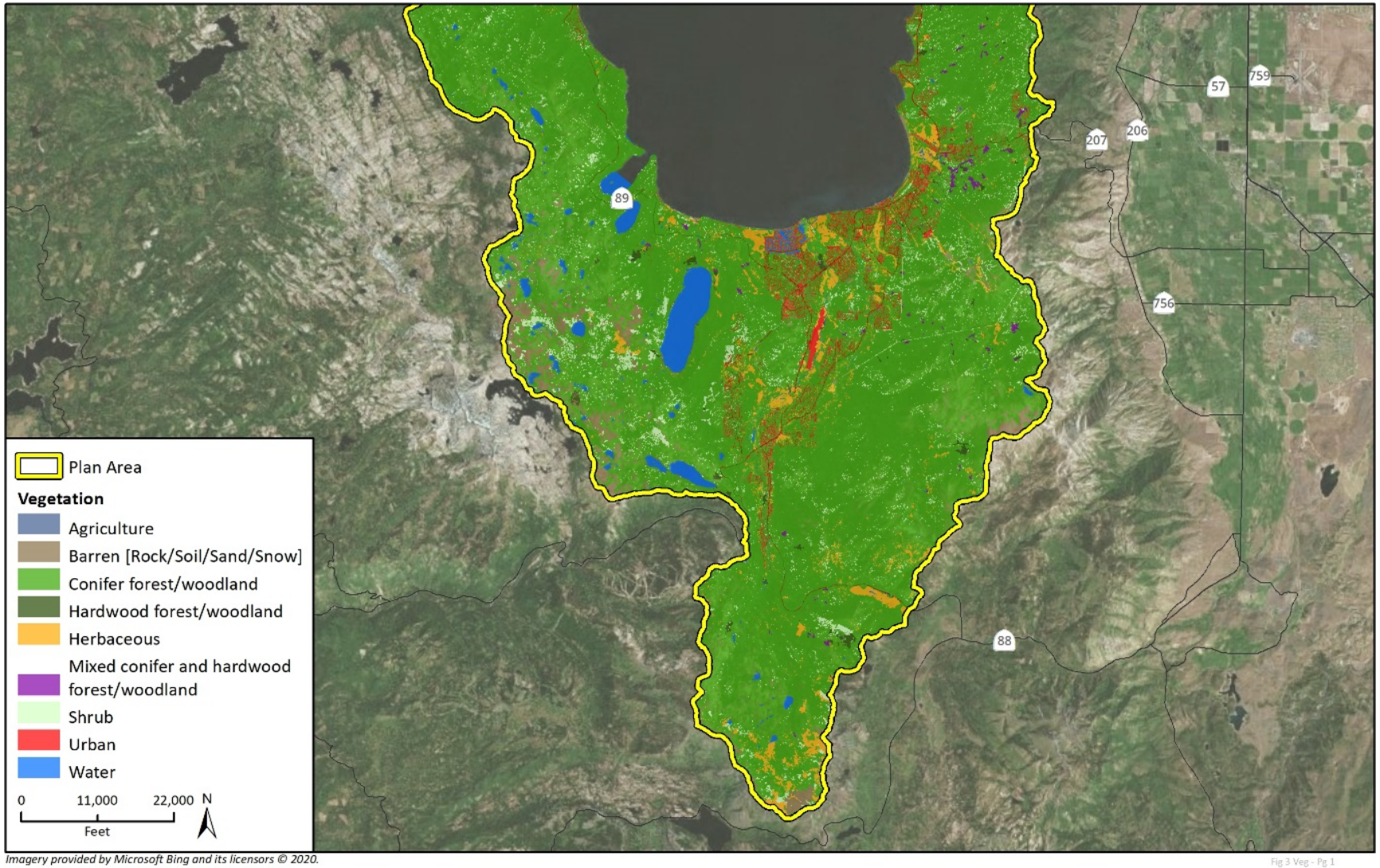
California Department of Fish and Wildlife, CWHR, 2014.

Fig 3 Veg - Pg 1

Figure 7 Vegetation Communities and Wildlife Habitats in the Southern Plan Area



Imagery provided by Microsoft Bing and its licensors © 2020.
California Department of Fish and Wildlife, CWHR, 2014.

Fig 3 Veg - Pg 1

Prior to approving any project subject to environmental review requirements, TRPA would, in accordance with Chapter 4, *Required Findings*, of the TRPA Code or Ordinances, make written findings supported by substantial evidence in the record that the project is consistent with, and would not adversely affect implementation of the Regional Plan, Goals and Policies, plan maps, TRPA Code, and other plans and programs; and that it would not cause Environmental Threshold Carrying Capacities to be exceeded. Because of the mandatory nature of TRPA environmental review requirements, TRPA Code compliance, and permit approvals, it is reasonable to expect that existing procedures, performance standards, and environmental safeguards such as TRPA threshold standards, TRPA Code compliance requirements, federal/state/local regulations, and permit approvals would be effective in avoiding or mitigating potentially significant project-specific impacts, and/or that projects would be required to be modified so as to achieve such standards prior to approval. Substantial and adverse impacts to riparian and sensitive habitats would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Depending on specific locations of projects, development under the 2020 RTP/SCS could result in the removal or disturbance of potential jurisdictional wetlands. Refer to item “b” above for a discussion of protected wetlands. Substantial and adverse impacts to state or federally protected wetlands would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Aquatic Habitat

Lakes and streams are the two primary aquatic habitats that support fish in the Plan Area. Stream and lake fish habitats are protected by the TRPA Code of Ordinances and state regulations. TRPA’s existing policies and Code provisions address potential impacts to fisheries and aquatic habitats, which include aquatic wildlife corridors, through site specific environmental review. Therefore, new and modified projects in the 2020 RTP/SCS would require development and implementation of project-specific measures to minimize or avoid impacts to fisheries through the design process, and would provide compensatory or other mitigation for any significant effects on fish habitat as a condition of project approval. Specifically, the TRPA Code of Ordinances requires protecting prime and other fish habitat, and implementing the fish habitat provisions in Sections 63.3.1 and 63.3.2.

Per TRPA's Rules of Procedure, these sections require mitigation to avoid significant impacts to fisheries as needed as a condition of project approval. Depending on the type and magnitude of a significant impact to aquatic habitat, mitigation measures could include fish rescue/relocation, best management practices (BMP) specifically designed to protect aquatic habitats and species, enhance habitat, control and manage invasive species, and secure funding or otherwise contribute to aquatic habitat restoration projects.

Additionally, the Shorezone Subelement of the Conservation Element of the Goals and Policies requires TRPA to regulate the placement of new piers, buoys, and other structures in the nearshore and foreshore of Lake Tahoe to avoid degradation of fish habitats and other types of impacts. The Goals and Policies also require TRPA to conduct studies, as necessary, to determine potential impacts to fish habitats and apply the results of such studies, as well as previous studies on shoreline erosion and Shorezone scenic quality, when determining the number of, location of, and standards of construction for facilities in the nearshore and foreshore. Section 80.4 of the TRPA Code states that TRPA would not approve a project in the shorezone or lakezone unless TRPA finds that the project will not adversely affect fish spawning, onshore wildlife habitat, littoral processes, or backshore stability. Projects in the shorezone that could support waterborne transit would be subject to Chapter 84 of the TRPA Code of Ordinances.

Because the 2020 RTP/SCS would allow some level of new development, aquatic habitats could be affected by individual project construction activities associated with development and redevelopment near aquatic habitats. Construction could result in temporary increases in turbidity and downstream sedimentation, small amounts of fill placed in aquatic habitats, and the release and exposure of construction-related contaminants. The 2012 RTP/SCS EIR/EIS concluded that temporary impacts to stream or lake habitats could be potentially significant, because of potential shorezone construction disturbance required for Lake Tahoe Waterborne Transit Project facilities.

The 2020 RTP/SCS would include the North Shore Water Taxi Project, which would provide new waterborne transit access to provide companion service to the Crosslake Ferry service. Facilities developed to support waterborne transit would potentially impact aquatic habitats. Chapter 63.3, Fish Habitat Protection, of the TRPA Code of Ordinances includes protection for lake habitat such that projects and activities in the shorezone of lakes may be prohibited, limited, or otherwise regulated in areas determined by TRPA to be vulnerable or critical to the needs of fish. Section 63.3.1 requires that physical alteration of the substrate in areas of prime fish habitat be mitigated. Additionally, Chapters 80 through 85 of the TRPA Code of Ordinances provide development standards for structures and construction in the shorezone as well as permissible uses within the shorezone for the protection of aquatic and fish habitat.

Projects included in the 2020 RTP/SCS would be required to comply with the TRPA Code as well as Mitigation Measure 3.10-3, requiring individual projects to conduct preconstruction surveys and develop native fish capture and transportation plans would apply to projects under the 2020 RTP/SCS. Compliance with TRPA's existing policies and Code provisions, along with implementation of Mitigation Measure 3.10-3 would minimize or avoid impacts to fish and aquatic habitat. Substantial and adverse impacts to fish movement would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

Wildlife Movement Corridors

Similar to the 2012 RTP/SCS, the overall land use pattern and amount of new development proposed under the 2020 RTP/SCS would not create barriers to wildlife movement locally or regionally. Transportation and land use projects proposed in the 2020 RTP/SCS would allow continued wildlife movement because new projects would include active transportation, corridor improvements, operations and management, and technology projects. These types of projects would not add new roads, increase travel lanes, or otherwise expand roadway capacity that could result in more wildlife collisions. The 2020 RTP/SCS is not anticipated to affect wildlife movement in areas of existing paved and disturbed rights-of-way. Generally, wildlife can cross a pedestrian or bicycle path with relative ease, and the level and speed of path use is not a substantial overall deterrent to wildlife movement across the proposed path. Adverse effects on the movement of terrestrial species would be temporary and limited to specific activities including installation of temporary fencing, night lighting, construction noise, construction of active transportation projects, and the presence of construction personnel during working hours.

Under implementation of the 2020 RTP/SCS distribution of intensively developed land, and amount and connectivity of open space regionally would not change substantially relative to critical movement requirements of native wildlife. Therefore, implementation of the 2020 RTP/SCS would not create new barriers to wildlife movement or substantially affect any known important wildlife corridors locally or regionally. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Similar to the 2012 and 2017 RTP/SCS, construction of development projects under the 2020 RTP/SCS may require the removal of native trees. Development would primarily be concentrated in existing community centers which are largely developed or previously disturbed and would likely require less tree removal than new uses outside of urban areas. Shared use and bike trails proposed in the 2020 RTP/SCS would likely involve some disturbance to native trees. However, final trail design may be designed to avoid or retain trees in future alignments in accordance with TRPA standards. Any proposed transportation or land use project that proposes tree trimming or removal would require permits and compliance with TRPA's Code of Ordinances Section 33.6, *Vegetation Protection During Construction*.

New and/or modified projects in the 2020 RTP/SCS, such as proposed bike and pedestrian trails, that traverse remote areas could result in substantial tree removal. Regardless of the magnitude or biological effects of tree removal, native trees are protected in the Plan Area, particularly those greater than 24- and 30-inches diameter at breast height (dbh) in eastside and westside forest types, respectively, or in SEZs. Specific provisions for tree removal in the Plan Area are provided in the TRPA Code of Ordinances (Chapter 61, and Chapters 36, 33, 62) and all tree removal for trees greater than 14 inches dbh requires review and approval by TRPA.

A harvest or tree removal plan is required by TRPA where implementation of a project would cause "substantial" tree removal. "Substantial" tree removal is defined in Chapter 61 of the TRPA Code as: 1) removal of more than 100 live trees 14 inches dbh or larger on project areas of three acres or more; or 2) tree removal that, as determined by TRPA after a joint inspection with appropriate state or federal forestry staff, does not meet the minimum acceptable stocking standards set forth in Chapter 61. For the purpose of late seral/old growth ecosystem protection, the TRPA Code specifies that no tree greater than or equal to 24 and 30 inches dbh in eastside and westside forest types, respectively, will be cut. However, the TRPA Code provides an exception for private landowners by allowing for a limited forest plan to be prepared if 10 percent or less of the trees greater than or equal to 24 inches dbh in eastside forest types within a project area are proposed to be cut within the life of the plan.

TRPA's existing policies and Code provisions address tree removal through site specific environmental review and would require development and implementation of project-specific measures to minimize or avoid impacts through the design and permitting process, and would provide compensatory or other mitigation for any significant effects as a condition of project approval. Specifically, the TRPA Goals and Polices and Code of Ordinances includes provisions for limiting tree removal and protecting late seral/old growth forests; and TRPA's Rules of Procedure require mitigation for any significant impact as a condition of project approval. Additionally, TRPA cannot approve projects that would cause a significant adverse effect on the late seral/old growth ecosystem threshold without appropriate mitigation.

Removal of native trees as part of specific projects implemented under the 2020 RTP/SCS would be a potentially significant impact. As such, Mitigation Measure 3.10-2 of the 2012 RTP/SCS requiring individual projects to minimize tree removal and develop a tree removal and management plan would apply to projects under the 2020 RTP/SCS. Implementation of Mitigation Measure 3.10-2 would ensure compliance with existing TRPA regulations and policies to identify potentially significant tree removal, minimize or avoid those impacts through the design and permitting process, and provide mitigation for any significant effects.

Overall, substantial and adverse impacts to tree removal would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

This impact area was included in the 2012 RTP/SCS EIR/EIS Section 5.1 *Effects Found Not To Be Significant* as there are no adopted habitat conservation plans, natural community conservation plans in the planning area. No new plans have been adopted since 2017.

Pursuant to 23 CFR 450.324(g)(1&2), each MPO, when developing content for new and updated transportation plans, must consider consistency with State conservation plans as well as inventories of natural resources. The State Wildlife Action Plan (SWAP; 2015) identifies conservation actions, several of which are beyond CDFW's jurisdiction, and as such CDFW collaborated with partners in

different sectors to create companion plans to achieve the SWAP's goals. The SWAP 2015 Transportation Companion Plan presents shared priorities for achieving the statewide goals including maintaining and increasing abundance and richness of native species, enhancing ecosystem conditions, and maintaining and improving ecosystem function. The 2020 RTP/SCS incorporates high-level conservation priorities consistent with these goals through proposed policies, projects, and compliance with existing regulations.

Specifically, the TRPA Goals and Policies and TRPA's Code of Ordinances require protection of habitats and vegetation through establishment of setbacks, BMPs, or other measures and protection of late seral/old growth forests and other sensitive habitats. These regulations and procedures address potential construction-related impacts to sensitive habitats and the distribution and abundance of species through site-specific environmental review; require development and implementation of project-specific measures to minimize or avoid impacts through the design and permitting process; and require compensatory or other mitigation for any significant effects as a condition of project approval and permitting. New transportation and land use projects proposed in the 2020 RTP/SCS would be required to comply with the TRPA Code of Ordinances and would therefore be consistent with the SWAP. In addition, new transportation and land use projects proposed in the 2020 RTP/SCS would allow continued wildlife movement because new projects would include active transportation, corridor improvements, operations and management, and technology projects. As such, implementation of the 2020 RTP/SCS would be consistent with the SWAP and no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 4 – Vegetation

a. Will the proposal result in removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES systems?

Similar to the 2012 and 2017 RTP/SCS, transportation and land use projects proposed in the 2020 RTP/SCS would require some vegetation removal. As discussed above under CEQA item "e," projects would be required to comply with vegetation removal standards included in the TRPA Code of Ordinances, Goals and Policies, and Rules of Procedure, as well as development and implementation of revegetation plans required by Mitigation Measure 3.10-1 of the 2012 RTP/SCS EIR/EIS. Additionally, projects included in the 2020 RTP/SCS would be subject to the same Individual Parcel Evaluation System (IPES) standards which limits the amount of development permitted in sensitive areas while retiring some sensitive parcels altogether. Overall, substantial and adverse impacts to native vegetation would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

b. Will the proposal result in removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?

As described in CEQA items "b" and "c," the 2012 RTP/SCS EIR/EIS concluded that construction of approved development would have a less-than-significant with mitigation incorporated impact to riparian habitat, other sensitive natural communities, and protected wetlands. Mitigation Measure 3.10-1 provided in the 2012 RTP/SCS EIR/EIS requires vegetation protection and revegetation as well as conducting wetland delineations for projects in areas with sensitive or riparian habitats, such that appropriate individual permits and authorization as well as revegetation plans are in place. Mitigation would apply to new and modified projects proposed under the 2020 RTP/SCS. Overall, substantial and adverse impacts to native vegetation would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

c. Will the proposal result in an introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?

Similar to the 2012 and 2017 RTP/SCS, projects included in the 2020 RTP/SCS would not require excess fertilizer or water and would not introduce vegetation that would provide a barrier to the normal replenishment of existing species. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and general location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Will the proposal result in a change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)?

Transportation and land use projects proposed in the 2020 RTP/SCS could result in short-term impacts including vegetation removal or disturbance that could temporarily affect sensitive habitats or the distribution and diversity of plant species. As discussed under CEQA item "b," any new development or redevelopment project would be required to comply with existing TRPA, federal, and state regulations, permitting requirements and environmental review procedures that protect sensitive habitats. Specifically, the TRPA Goals and Policies and TRPA's Code of Ordinances require protection of habitats and vegetation through establishment of setbacks, BMPs, or other measures and protection of late seral/old growth forests and other sensitive habitats. These regulations and procedures address potential construction-related impacts to sensitive habitats through site-specific environmental review; require development and implementation of project-specific measures to minimize or avoid impacts through the design and permitting process; and require compensatory or other mitigation for any significant effects as a condition of project approval and permitting.

Individual projects would be required to comply with Mitigation Measure 3.10-1 in the 2012 RTP/SCS EIR/EIS relating to vegetation protection and revegetation in areas with sensitive habitats.

Overall, substantial and adverse impacts to species distribution would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

e. Will the proposal result in a reduction of the numbers of any unique, rare or endangered species of plants?

As described above in CEQA item "a," project-level planning and environmental analysis for individual transportation projects would identify potentially significant effects to special-status species of plants, minimize or avoid those impacts through the design process, and require mitigation for any significant effects as a condition of approval. Mitigation Measure 3.10-4 provided in the 2012 RTP/SCS EIR/EIS requiring pre-construction surveys for special-status plant and animal species would ensure that special-status species with the potential to occur on individual project sites are accounted for and impacts are avoided, minimized or compensated. Mitigation would apply to projects with the potential to adversely impact special-status species to reduce impacts to a less-than-significant level.

Overall, substantial and adverse impacts to special-status species would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

f. Will the proposal result in removal of stream bank and/or backshore vegetation, including woody vegetation such as willows?

Transportation and land use projects proposed in the 2020 RTP/SCS could result in short-term impacts during construction including vegetation removal or disturbance that could temporarily affect stream bank and/or backshore vegetation. Any new development or construction of projects would be required to comply with existing TRPA, federal, and state regulations and permitting requirements protecting sensitive habitats and vegetation including stream bank and backshore vegetation. As described under CEQA items "b" and "c" above, existing regulations and permitting requirements would minimize the loss of sensitive habitats during construction and provide habitat compensation for the loss of riparian, wetland, and other sensitive habitats through CWA Section 404, TRPA, and other permitting and review processes. This would ensure that proposed projects would not result in permanent removal of stream bank or backshore vegetation in the Plan Area.

Mitigation Measure 3.10-1 provided in the 2012 RTP/SCS EIR/EIS addresses vegetation protection and revegetation as well as conducting wetlands delineation would be applied to projects in areas with sensitive or riparian habitats, such that appropriate individual permits and authorization as well as revegetation plans are in place. Mitigation would apply to projects with the potential to adversely impact riparian or sensitive habitats to reduce impacts to a less-than-significant level. Substantial and adverse impacts to riparian and sensitive habitats would remain less than significant

with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

g. Will the proposal result in removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications?

As described above under CEQA item "e," shared use and bike trails proposed in the 2020 RTP/SCS would likely involve some disturbance to native trees which may be 30 inches or greater in dbh. Any proposed transportation or land use project that proposes tree trimming or removal would require permits and compliance with TRPA's Code of Ordinances including Section 33.6, *Vegetation Protection During Construction*. Additionally, Mitigation Measure 3.10-2 of the 2012 RTP/SCS which requires individual projects to minimize tree removal and develop a tree removal and management plan would apply to projects under the 2020 RTP/SCS. Implementation of Mitigation Measure 3.10-2 would ensure compliance with existing TRPA regulations and policies to identify potentially significant tree removal, minimize or avoid those impacts through the design and permitting process, and provide mitigation for any significant effects.

Overall, substantial and adverse impacts to tree removal would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

h. Will the proposal result in a change in the natural functioning of an old growth ecosystem?

As described above under CEQA item "e," project-level planning, environmental analysis, and compliance with existing TRPA regulations and policies would identify potentially significant tree removal; minimize or avoid those impacts through the design, siting, and permitting process; and provide mitigation for any significant effects as a condition of project approval and permitting. Specifically, the TRPA Goals and Policies and TRPA's Code of Ordinances require protection of old growth habitats through establishment of setbacks, BMPs, or other measures and protection of late seral/old growth forests and other sensitive habitats. Additionally, Mitigation Measure 3.10-2 of the 2012 RTP/SCS requiring individual projects to minimize tree removal in old growth ecosystems and develop a tree removal and management plan would apply to projects under the 2020 RTP/SCS. Implementation of Mitigation Measure 3.10-2 would ensure compliance with existing TRPA regulations and policies to identify potentially significant tree removal, minimize or avoid those impacts through the design and permitting process, and provide mitigation for any significant effects, including in old growth ecosystems.

Overall, substantial and adverse impacts to tree removal would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual

projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

Section 5 – Wildlife

a. Will the proposal result in a change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)?

As described above under CEQA items "a" and "d," project-level planning and environmental analysis for individual projects would identify potentially significant effects to special-status wildlife species, minimize or avoid impacts to their habitats through the design process, and require mitigation for any significant effects as a condition of approval. Mitigation Measures 3.10-3 and 3.10-4 from the 2012 RTP/SCS EIR/EIS would require preconstruction surveys for special-status animal species including fish and implement avoidance and minimization measures. As such, substantial and adverse impacts to the diversity or distribution of species would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

b. Will the proposal result in reduction of the number of any unique, rare or endangered species of animals?

As described above under CEQA item "a," project-level planning and environmental analysis for individual projects would identify potentially significant effects to special-status wildlife species, minimize or avoid those impacts through the design process, and require mitigation for any significant effects as a condition of approval. Mitigation Measure 3.10-4 provided in the 2012 RTP/SCS EIR/EIS requiring pre-construction surveys for special-status animal species would ensure that special-status species with the potential to occur on individual project sites are accounted for and impacts are avoided, minimized or compensated. Mitigation would apply to active transportation projects with the potential to adversely impact special-status species to reduce impacts to a less-than-significant level.

Overall, substantial and adverse impacts to special-status species would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

c. Will the proposal result in an introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?

As described above under CEQA item "d," similar to the 2012 and 2017 RTP/SCS the overall land use pattern and amount of new development proposed under the 2020 RTP/SCS would not create barriers to wildlife movement locally or regionally. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Will the proposal result in a deterioration of existing fish or wildlife habitat quantity or quality?

Please refer to CEQA items "a" and "b" for a discussion of wildlife habitat quantity and quality. As described under CEQA item "d" above, because the 2020 RTP/SCS would allow some level of new development, aquatic habitats could be affected by individual project construction activities associated with development and redevelopment near aquatic habitats. Construction could result in temporary increases in turbidity and downstream sedimentation, small amounts of fill placed in aquatic habitats, and the release and exposure of construction-related contaminants.

TRPA's existing policies and Code provisions address potential impacts to fisheries and aquatic habitats through site-specific environmental review, require development and implementation of project-specific measures to minimize or avoid those impacts through the design process, and require compensatory or other mitigation for any significant effects on fish habitat as a condition of project approval. Specifically, provisions of the TRPA Code of Ordinances require protecting prime and other fish habitat and require mitigation to avoid significant impacts to fisheries if needed; TRPA's Rules of Procedure require mitigation for any significant impact as a condition of project approval. The 2012 RTP/SCS EIR/EIS concluded that temporary impacts to stream or lake habitats could be potentially significant, because of potential shorezone construction disturbance required for Lake Tahoe Waterborne Transit Project facilities.

The 2020 RTP/SCS would include the North Shore Water Taxi Project, which would provide new waterborne transit access to provide companion service to the Crosslake Ferry service. Facilities developed to support waterborne transit would potentially impact aquatic habitats. As described above under CEQA item "d," projects would be required to adhere to the development standards for structures and construction in the shorezone included in Chapters 80 through 85 of the TRPA Code. Additionally, Mitigation Measure 3.10-3, requiring individual projects to conduct preconstruction surveys and develop native fish capture and transportation plans would apply to projects under the 2020 RTP/SCS. Compliance with TRPA's existing policies and Code provisions, along with implementation of Mitigation Measure 3.10-3 would minimize or avoid impacts to fish and aquatic habitat. Substantial and adverse impacts to fish movement would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

5 Cultural Resources

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	2012 RTP/SCS EIR/EIS Impact 3.15-1	No	No	No	Yes
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	2012 RTP/SCS EIR/EIS Impact 3.15-2	No	No	No	Yes
c. Disturb any human remains, including those interred outside of formal cemeteries?	2012 RTP/SCS EIR/EIS Impact 3.15-3	No	No	No	Yes
TRPA Environmental Checklist: Section 20 – Archaeological/Historical					
Will the proposal result in:					
a. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building?	2012 RTP/SCS EIR/EIS Impacts 3.15-1, 3.15-2	No	No	No	Yes
b. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records?	2012 RTP/SCS EIR/EIS Impacts 3.15-1, 3.15-2	No	No	No	Yes
c. Is the property associated with any historically	2012 RTP/SCS EIR/EIS	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
	significant events and/or sites or persons?	Impact 3.15-1				
d.	Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	2012 RTP/SCS EIR/EIS Impact 3.15-5	No	No	No	Yes
e.	Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?	2012 RTP/SCS EIR/EIS Impact 3.15-5	No	No	No	Yes

Discussion

Projects that are new for the 2020 RTP/SCS and may impact cultural resources by introducing new construction and ground-disturbing activities include, but are not limited to, the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails, segments of the Nevada Stateline to Stateline Bikeway, the Pope Beach Bike Path, and the Route 89 Class I and Lake Side Phase 2C bike trails. Other projects include safety improvements and complete streets project improvements such as additions of sidewalks along U.S. Highway 50 from Kingsbury Grade to Lake Parkway, and rehabilitation of roads, bike and pedestrian facilities generally within existing urbanized areas and road right of ways. The project development and site design for all projects would include an inventory of historic resources and development of mitigation measures, if necessary, in consultation with the California and Nevada State Offices of Historic Preservation (SHPO).

The Regional Plan calls for the identification and preservation of sites of historic, cultural, and architectural significance for the region. TRPA recognizes "designated" and "determined eligible" historic and cultural resources across the Lake Tahoe Basin. The 1987 Regional Plan designated over 70 historic resources retaining a high level of historic or cultural integrity and significance for the Tahoe Region. Since that time, historic and cultural resources are assessed on a case-by-case basis. Prior to any project potentially impacting a historic or cultural resource over 50 years of age, an historic determination must be completed through TRPA. Additionally, the TRPA Code has identification and protection measures in place should an historic, pre-historic, or paleontological resource be discovered during project or grading activity.

All projects implemented under the 2020 RTP/SCS must comply with Chapter 67 of the TRPA Code of Ordinances which includes specific standards to protect significant cultural, historical, archaeological, and paleontological resources. Regulations include protection of such resources in project areas in which they are known or suspected. Chapter 67 also provides for consultation with state historical agencies and the Washoe Tribe. Additionally, Standard 33.3.7 in Chapter 33 (Grading

and Construction, Section 33.3, Grading Standards) addresses discovery of historical resources. Projects would also be subject to local jurisdiction cultural resource protection standards as well as state and federal regulations.

CEQA Environmental Checklist

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

TRPA maintains a Historic Resources Map and inventories that identify known archaeological, ethnographic, and historical sites. Geographic Information System (GIS) data is currently used by TRPA to map known resources. TRPA recognizes 112 sites of historical or archaeological significance, all of which were accounted for in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Cultural resources or archaeological sites are categorized by physical types as linear features and non-linear features. Linear features account for 33 of the recognized sites and non-linear features account for the remaining 79 sites. Linear features include roads, grades, passes, railroads, trestles, flumes, and trails. Non-linear features include houses, lodges, chapels, ranger stations, ranches, toll houses, sawmills, bridges, dairies, historic districts, logging/lumber camps, railroad tunnels, cabins, taverns, mansions/estates, piers, hotels, resorts, beaches, points, creek/river mouths, marshes, Native American function sites, springs, bays, and harbors. In addition to linear and non-linear features shown on the Historic Resources Map, many small sites are known around Lake Tahoe where a variety of artifacts have been discovered. Refer to TRPA Environmental Checklist item “b” below, for a discussion of archaeological resources in the Plan Area.

Similar to the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would authorize new development, which could occur on or adjacent to properties that contain known historical resources, be associated with historically significant events or individuals, or result in adverse physical or aesthetic effects to a significant historical site, structure, object, or building. Because the 2020 RTP/SCS would result in new construction over the planning period, disturbance, disruption, or destruction of historical resources could occur through implementation of specific projects.

Projects under the 2020 RTP/SCS would be required to comply with federal and state regulations and TRPA Code standards for the protection of historical resources and provide processes to avoid or minimize impacts to these resources. TRPA reviews the historic and cultural integrity of sites, structures, buildings, and objects 50 years or older. Specifically, TRPA Code Standard 67.3.2 requires that projects in areas with known or newly discovered sites of cultural or historic significance include a site survey performed by a qualified archaeologist prior to TRPA approval and TRPA Code Standard 67.3.4 prohibits grading, operation of equipment or other soil disturbance in areas where a designated historic resource is present, or could be damaged, except in accordance with a TRPA-approved resource protection plan. Additionally, upon discovery of a previously unknown site, object, district, structure or other resource, potentially meeting criteria designating it as a historic resource (as outline in TRPA Code Standard 67.6) TRPA would consult with the applicable SHPO. The SHPOs play an advisory role to TRPA during project review. TRPA staff request comment in such circumstances and often coordinate with the applicable SHPO on required study and mitigation measures. TRPA also consults with the applicable SHPO during the scoping process for all EISs and CEQA documents and submits these documents for comment during the public comment period.

At the federal level, Section 106 of the National Historic Preservation Act of 1966 guides cultural resources investigations by federal agencies and requires considerations of effects on properties that are listed in, or may be eligible in, the National Register of Historic Places. At the state level,

both California and Nevada have processes in place to protect and avoid historical resources. The California Register of Historic Resources identifies historic resources and indicates which properties are encouraged to be protected. On California state-owned lands, historical and archaeological resources are subject to the requirements of PRC Section 5024.5, which requires notification of the California SHPO during the planning process. If the SHPO determines that a proposed action would have an adverse effect on a listed historical resource, State Parks and the California SHPO must adopt prudent and feasible measures that will eliminate or mitigate the adverse effects.

In Nevada, the SHPO reviews projects for potential impacts upon historic properties. The Nevada SHPO keeps an inventory of the state's cultural resources to assist federal, state, and local agencies in planning projects so as to avoid impacts to important cultural resources; the agency also acts as a clearinghouse for nominations of sites and features to the National Register of Historic Places.

Historical resources impacts are site specific and depend on the location and type of development and individual effect on resources. Although standards are in place to protect these resources, project activities could still damage or destroy resources. Additionally, project designs could include alignments that overlap existing historical resources. For example, the Tallac Historic Site Improvements project in the 2020 RTP/SCS overlaps with the Tallac Point and Tallac Estates historical sites and the U.S. Highway 50 Sidewalk Construction from Kingsbury Grade to Lake Parkway project would follow a stretch of U.S. Highway 50 that is considered a historic linear feature by TRPA. These projects, as well as other new or modified projects in the 2020 RTP/SCS, would overlap existing historical linear and non-linear features. Therefore, impacts to historical resources would be potentially significant and Mitigation Measures 3.15-1a through 3.15-1c of the 2012 RTP/SCS EIR/ EIS would be required. These measures would require individual projects to prepare site-specific historic resources inventory reports, survey of historic resources not previously listed, and record historic buildings or structures where adverse effects to historic resources cannot be avoided.

Implementation of Mitigation Measure 3.15-1 would reduce potentially significant impacts to historic resources, similar to the 2017 RTP/SCS, because site-specific cultural resources inventory reports and surveys for historic resources would be used in coordination with the appropriate federal, state, and/or local agencies to avoid, move, record, or otherwise treat the resource appropriately, in accordance with pertinent laws and regulations. Overall, substantial and adverse impacts to historical resources would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. Individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Similar to the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would authorize new development, which could occur on properties that contain known or unknown archaeological resources and/or human remains or result in adverse physical effects to significant archaeological sites or features. Because the 2020 RTP/SCS would result in new construction over the planning period, disturbance, disruption, or destruction of archaeological resources could occur through implementation of specific projects. Projects under the 2020 RTP/SCS would be required to comply with federal and state regulations and TRPA Code standards for the protection of archaeological

resources and provide processes to avoid or minimize impacts to these resources. Specifically, TRPA Code Standard 67.3.1 requires evaluation of any potential archaeological, cultural, or historical resources discovered during project construction by a qualified archaeologist.

Archaeological resources impacts are site specific and depend on the location and type of physical changes, specifically ground-disturbing activities. Although standards are in place to protect these resources, implementation of new or modified projects under the 2020 RTP/SCS could still uncover or damage resources during grading and excavation, pile driving, and heavy equipment use. Therefore, impacts to archaeological resources would be potentially significant, similar to the 2017 RTP/SCS, and projects under the 2020 RTP/SCS would be required to adhere to Mitigation Measures 3.15-2a, 3.15-2b, 3.15-2c, and 3.15-2d from the 2012 RTP/SCS EIR/EIS. These measures would require individual projects to prepare site-specific archaeological resources inventory reports, conduct archaeological testing and data recovery, conduct archaeological monitoring during construction, and stop work in the event of an archaeological discovery.

Implementation of Mitigation 3.15-2 would reduce potentially significant impacts to archaeological resources, similar to the 2017 RTP/SCS, because mitigation would be developed in coordination with the appropriate federal, state, and/or local agencies to avoid, move, record, or otherwise treat the resource appropriately, in accordance with pertinent laws and regulations. Overall, substantial and adverse impacts to historical resources would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Similar to the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would authorize new development, which could occur on properties that contain known or unknown human remains or result in adverse physical effects to human remains. Because the 2020 RTP/SCS would result in new construction over the planning period, disturbance, disruption, or destruction of known or unknown human remains could occur through implementation of specific projects.

For projects in California, Section 7050.5(b) of the California Health and Safety Code specifies protocol when human remains are discovered. The code includes requirements that, if human remains are discovered, work shall cease within the immediate area; the County Coroner be notified; and, if the remains are determined to be of Native American origin, a qualified archaeologist work with the Coroner's Office to identify the Most Likely Descendant, who will assist in making a decision about further treatment of the remains as required in PRC Section 5097.98. Similarly, Nevada Revised Statuses (NRS) Chapter 383, Historic Preservation and Archaeology, provides protection of Indian burial sites discovered in Nevada. NRS requires, among other things, immediate consultation with the appropriate tribal authorities upon discovery of a native burial site. Although standards are in place to protect human remains, development of new or modified projects under the 2020 RTP/SCS could still result in accidental discovery during grading and excavation. Therefore, impacts would be potentially significant and Mitigation Measure 3.15-3 in the 2012 RTP/SCS EIR/EIS would be required for projects under the 2020 RTP/SCS. This measure

requires projects to stop work immediately if human remains are discovered or recognized in any location on an individual project site.

Implementation of Mitigation 3.15-3 would reduce potentially significant impacts to human remains because mitigation would be developed in consultation with the appropriate federal, state, and/or local agencies to avoid, move, record, or otherwise treat the resource appropriately, in accordance with pertinent laws and regulations. Overall, substantial and adverse impacts to human remains would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

TRPA Environmental Checklist

Section 20 – Archaeological/Historical

a. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object, or building?

Refer to CEQA items “a” and “b” above for a discussion of potential physical impacts to archaeological and historic sites, structures, objects and buildings. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO WITH MITIGATION

b. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records?

Refer to CEQA items “a” and “b” above for a discussion of potential impacts to archaeological and historic resources. Similar to the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would authorize new transportation and land use projects, which could occur on or adjacent to properties that contain known cultural, historical, and/or archaeological resources. Because the 2020 RTP/SCS would result in some new construction over the planning period disturbance, disruption, or destruction of these resources could occur through implementation of specific transportation projects. Projects under the 2020 RTP/SCS would be required to comply with federal and state regulations and TRPA Code standards for the protection of historical, cultural, and archaeological resources and provide processes to avoid or minimize impacts to these resources. As described above under CEQA items “a” and “b,” TRPA Code Standards 67.3.1 through 67.3.4 of the Historic Resource Protection chapter require projects to be evaluated on a site-by-site basis for potential archaeological, cultural, or historic resources and adhere to a resource protection plan as necessary.

Implementation of Mitigation Measures 3.15-1 through 3.15-3 in the 2012 RTP/SCS EIR/EIS would reduce potentially significant impacts to cultural, historical, and/or archaeological resources

because mitigation would be developed in consultation with the appropriate federal, state, and/or local agencies to avoid, move, record, or otherwise treat the resource appropriately, in accordance with pertinent laws and regulations. Overall, substantial and adverse impacts to historical, archaeological, and cultural resources would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

c. Is the property associated with any historically significant events and/or sites or persons?

Refer to TRPA Environmental Checklist item "b" above for a discussion of potential impacts to archaeological and historic resources. Substantial and adverse impacts to historical resources would remain less than significant with implementation of Mitigation Measures 3.15-1 through 3.15-3 from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

d. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?

Implementation of the 2020 RTP/SCS would authorize new development that has the potential to cause physical changes that would affect unique ethnic cultural values in the region. Because the 2020 RTP/SCS would result in some new construction over the planning period, new development has the potential to disturb, disrupt, or restrict ethic and cultural uses and values through implementation of specific projects. Projects under the 2020 RTP/SCS would be required to comply with federal and state regulations and TRPA Code standards for the protection of tribal resources and provide processes to avoid or minimize impacts to these resources. As described under TRPA Environmental Checklist item "a," Code Standard 67.3.2 requires projects in areas with known or newly discovered sites of cultural significance include a site survey prior to TRPA approval. This standard also requires consultation with the Washoe Tribe on all site surveys to determine if tribally significant sites are present. If resource(s) are discovered and deemed significant, then a resource protection plan is required. TRPA Code Standard 67.3.3 requires this plan be prepared by a qualified professional and may provide for surface or subsurface recovery of data and artifacts and recordation of structural and other data.

However, as identified above under CEQA items "a" and "b," implementation of new or modified projects in the 2020 RTP/SCS could still uncover or destroy historic or archaeological resources during grading and excavation, pile driving and heavy equipment use or include alignments that overlap existing historical resources. Additionally, as described in CEQA Environmental Checklist item "c," although standards are in place to protect human remains, project activities could still result in accidental discovery during grading and excavation. Accidentally discovered remains could be of Native American origin. Therefore, impacts to ethnic and cultural values would be potentially significant and implementation of all mitigation measures included in the 2012 RPT/SCS and as

described above under the CEQA Environmental Checklist would be required for projects included in the 2020 RTP/SCS.

Implementation of Mitigation Measures 3.15-1a, 3.15-1b, 3.15-1c, 3.15-2a, 3.15-2b, 3.15-2c, 3.15-2d, and 3.15-3 from the 2012 RTP/SCS would reduce impacts to cultural and ethnic values because they would require consultation with the Native American Heritage Commission and the Washoe Tribe; require avoidance, preservation in place, excavation, documentation, and/or data recovery of historical and archaeological resources; and require assessment of and adherence to a formal recommendation for any discovered human remains. Overall, substantial and adverse impacts to unique ethnic cultural values would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

e. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

Implementation of the 2020 RTP/SCS would authorize new development that has the potential to cause physical changes that restrict historic or prehistoric religious or sacred uses within the region. Because the 2020 RTP/SCS would result in some new construction over the planning period, new development has the potential to disturb, disrupt, or restrict pre-historic religious or sacred uses through implementation of specific projects. However, as described above under TRPA Environmental Checklist item “d,” implementation of Mitigation Measures 3.15-1a, 3.15-1b, 3.15-1c, 3.15-2a, 3.15-2b, 3.15-2c, 3.15-2d, and 3.15-3 would reduce impacts to cultural resources. Overall, substantial and adverse impacts to historic or pre-historic religious or sacred uses would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

6 Energy

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	N/A	No	No	No	N/A
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	N/A	No	No	No	N/A
TRPA Environmental Checklist: Section 15 – Energy					
Will the proposal result in:					
a. Use of substantial amounts of fuel or energy?	N/A	No	No	No	N/A
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	N/A	No	No	No	N/A

Discussion

CEQA Guidelines Appendix F (Energy Conservation) and the updated Appendix G guidelines published in December of 2018 require that environmental analysis include a discussion of the potential energy impacts of proposed projects, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The 2012 EIR/EIS and 2017 IS/IEC did not include a separate section analyzing potential environmental impacts related to the topic of Energy because it was not required under the *CEQA Guidelines* in effect at the time of the 2012 and 2017 analysis. The topic of electrical and natural gas use was addressed in Impact 3.13-4 of the 2012 EIR/EIS.

Projects new to the 2020 RTP/SCS that would require energy use during construction include bikeway improvements, new bike trails, new pedestrian paths and sidewalks, new transit terminals, and new traffic signage. Projects that would require energy use during operation include the new

shuttle and electric bus operation and street sweeping activities by the Nevada Department of Transportation.

CEQA Environmental Checklist

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction of 2020 RTP/SCS projects would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Construction would also use building materials that would require energy use during the manufacturing and/or procurement of that material. However, it is reasonable to assume that manufacturers of building materials such as concrete, steel, lumber, or other building materials would employ energy conservation practices in the interest of minimizing the cost of doing business. Energy use during demolition and construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Construction activities would utilize fuel-efficient equipment consistent with state and federal regulations, including the Corporate Average Fuel Economy (CAFE) standards, Energy Policy and Conservation Act of 1975, pollution standards for light-duty vehicles under Section 202 of the Clean Air Act, Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, and would comply with state measures to reduce the inefficient, wasteful, or unnecessary consumption of energy. Furthermore, in the interest of cost efficiency, construction contractors would not be anticipated to utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction activities would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

Energy demand from project operation would include fuel consumed by transit vehicles resulting from new transit routes or stops, and electricity used for charging vehicles, lighting at new transit facilities, and safety lighting along proposed trails. The 2020 RTP/SCS would not increase the capacity of roadways in the Plan Area; would primarily add projects that would reduce vehicle use and improve bicycling, pedestrian, and transit facilities; and would implement VMT-reducing projects and programs. In addition, all new buses proposed under the 2020 RTP/SCS would run on clean energy such as electric and hydrogen fuel. Finally, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce energy use. Energy usage resulting from 2020 RTP/SCS projects during operation would not be considered wasteful, inefficient, or unnecessary and fuel usage would decrease from reduced VMT.

Because projects included in the 2020 RTP/SCS would not increase capacity and would implement VMT reducing projects and programs, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As described in Section 2, *Project Description*, above, the 2020 RTP/SCS is an update to the current 2017 RTP/SCS and includes changes in transportation projects to address the needs of the region and future land use patterns. The 2020 RTP/SCS land use scenario concentrates the forecasted growth in population and employment in already urbanized areas. New transportation projects included in the 2020 RTP/SCS involve the construction of active transportation facilities including trails, bikeways, pedestrian facilities, and other non-motorized paths. The provision of non-motorized routes would promote walking and cycling, reducing the region's reliance on vehicles and thus gasoline and diesel fuels. The 2020 RTP/SCS also includes projects that would construct complete streets, install transportation demand measures, fund electric buses, and improve bus transit facilities. These project features are consistent with regional and statewide goals to achieve energy use reductions, including California Energy Efficiency Action Plan fuel efficiency standards, building energy efficiency standards, and clean energy usage goals. The projects also support TRPA Regional Plan goals and policies to construct energy efficient buildings, facilitate the use of electric and zero emissions vehicles, and increase energy conservation. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 15 – Energy

a. Will the proposal result in use of substantial amounts of fuel or energy?

Refer to Section 2, *Project Description*, and *item (b)* of the CEQA Environmental Checklist, above, for types of projects included in the 2020 RTP/SCS, which would reduce the consumption of fuel in the region. 2020 RTP/SCS projects would not result in a substantial increase in the use of fuel, and would encourage the use of renewable energy sources, such as through the funding of electric buses for the Bike and Pedestrian Facilities Operations and Maintenance Project. The 2020 RTP/SCS would not increase the capacity of roadways in the Plan Area; would primarily add projects that would reduce vehicle use and would improve bicycling, pedestrian, and transit facilities; and would implement VMT-reducing projects and programs. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce fuel and energy use. Therefore, no new utility consumption not previously analyzed would occur.

NO

b. Will the proposal result in substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

Refer to Section 2, *Project Description*, and *item (b)* of the CEQA Environmental Checklist, above, for types of projects included in the 2020 RTP/SCS, which would reduce the long-term consumption of fuel in the region. This is similar to the conclusions of the 2012 EIR/EIS and 2017 IS/IEC, which found that increased fuel usage would only occur during construction and increasing fuel efficiency standards as well as the decrease in VMT would decrease the long-term consumption of fuel. These projects would not substantially increase the demand on sources of energy or require the development of new energy sources because the 2020 RTP/SCS would not increase the capacity of

roadways in the Plan Area; would primarily add projects that would reduce vehicle use and would improve bicycling, pedestrian, and transit facilities; and would implement VMT-reducing projects and programs. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. The 2020 RTP/SCS would not increase energy demands beyond the 2012 EIR/EIS or 2017 IS/IEC because the 2020 RTP/SCS would decrease long-term VMT in the Plan Area. Therefore, no new utility consumption not previously analyzed would occur.

NO

7 Geology and Soils

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist Would the project:					
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	2012 RTP/SCS EIR/EIS Impact 3.7-2	No	No	No	N/A
ii. Strong seismic ground shaking?	2012 RTP/SCS EIR/EIS Impact 3.7-2	No	No	No	N/A
iii. Seismic-related ground failure, including liquefaction?	2012 RTP/SCS EIR/EIS Impact 3.7-2	No	No	No	N/A
iv. Landslides?	2012 RTP/SCS EIR/EIS Impact 3.7-2	No	No	No	N/A
b. Result in substantial soil erosion or the loss of topsoil?	2012 RTP/SCS EIR/EIS Impact 3.7-1	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	2012 RTP/SCS EIR/EIS Impact 3.7-1 and 3.7-3	No	No	No	N/A
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	2012 RTP/SCS EIR/EIS Impact 3.7-1	No	No	No	N/A
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	2012 RTP/SCS EIR/EIS Page 3.13-5	No	No	No	N/A
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	2012 RTP/SCS EIR/EIS Impact 3.15-4	No	No	No	N/A
TRPA Environmental Checklist: Section 1 – Land					
Will the proposal result in:					
a. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation (IPES)?	2012 RTP/SCS EIR/EIS Impact 3.7-4	No	No	No	N/A
b. A change in the topography or ground surface relief features of site inconsistent with the	2012 RTP/SCS EIR/EIS Impact 3.7-1	No	No	No	N/A

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
	natural surrounding conditions?					
c.	Unstable soil conditions during or after completion of the proposal?	2012 RTP/SCS EIR/EIS Impact 3.7-1	No	No	No	N/A
d.	Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?	2012 RTP/SCS Impact 3.7-1	No	No	No	N/A
e.	The continuation of or increase in wind or water erosion of soils, either on or off the site?	2012 RTP/SCS Impact 3.7-1	No	No	No	N/A
f.	Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake?	2012 RTP/SCS EIR/EIS Impact 3.7-1 and 3.8-5	No	No	No	N/A
g.	Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?	2012 RTP/SCS EIR EIS Impact 3.7-1, 3.7-2, 3.7-3	No	No	No	N/A

Discussion

Transportation and land use projects included in the 2020 RTP/SCS would involve construction, disturbance of soils and in some instances, changes to topography. Larger scale projects more likely to have impacts to geology and soils, due to more ground disturbance, include, but are not limited to, the U.S. Highway 50 Summit Bridge Rehabilitation, Dollar Creek and South Tahoe Greenway shared use trails, segments of the Nevada Stateline to Stateline Bikeway, the Pope Beach bike path, and the Route 89 Class I and Lake Side Phase 2C bike trails. Other projects include safety

improvements and complete streets project improvements such as additions of sidewalks along U.S. Highway 50 from Kingsbury Grade to Lake Parkway as well as rehabilitation of roads, bike and pedestrian facilities generally within existing urbanized areas and road right of ways. Projects would also be subject to local jurisdiction grading and earthwork standards and state and federal requirements.

All projects implemented under the 2020 RTP/SCS must comply with the land coverage standards and limitations set forth in Chapter 30 of the TRPA Code of Ordinances. Chapter 53 of the TRPA Code establishes the IPES and related procedures, in accordance with the 1987 Regional Plan. In accordance with Chapter 53, vacant residential parcels within the Plan Area are evaluated, assigned a numerical IPES score, and ranked within each local jurisdiction from most suitable to least suitable for development.

Chapter 60 of the TRPA Code sets forth requirements for installation of BMPs for the protection or restoration of water quality and attainment of minimum discharge standards. Projects are required to comply with temporary and permanent BMP programs as a condition of approval. Chapter 33 of the TRPA Code describes the various standards and regulations that protect the environment against significant adverse effects from excavation, filling, and clearing, due to such conditions as exposed soils, unstable earthworks, or groundwater interference.

CEQA Environmental Checklist

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The Plan Area lies within a tectonically active, asymmetric half-graben, a depressed block of land bordered by a major fault. Evidence shows that Tahoe Basin faults have had pre-historic earthquakes of a magnitude of 7.0 within the past 10,000 years (Segale and Cobourn 2005). The Carson Range fault system is one of the largest fault systems east of the Plan Area and runs for 60 miles along the east face of the Carson Range from Reno to Markleeville. The probability of at least one magnitude ≥6.0 event occurring in the Reno-Carson City urban corridor over a 50-year period is estimated to be between 34 percent and 98 percent (dePolo et al. 1997).

According to the Earthquake Potential Map for Portions of Eastern California and Western Nevada (California Geological Survey 2005), the Plan Area is considered to have a relatively low to moderate potential for groundshaking caused by seismic-related activity. However, earthquakes occurring nearby, such as in the Reno-Carson urban corridor, have the potential to trigger secondary hazards in the Plan Area.

Hazards related to seismic activity, which could affect future development in the Plan Area under the 2020 RTP/SCS, are the same hazards that were analyzed in the 2012 RTP/SCS EIR/EIS and 2017

RTP/SCS IS/IEC. The 2020 RTP/SCS land use scenario would continue to concentrate development within urbanized areas, consistent with the current development pattern, and the location, distribution, density, and growth of the human population in the Plan Area would be expected to remain similar to those under the existing conditions. As described in Section 14, *Population and Housing*, increases in the Plan Area population would be limited by the development rights and allocations. As described in Section 16, *Recreation*, the 2020 RTP/SCS would provide additional recreational opportunities for residents and visitors. Although more individuals may be exposed to hazards from seismic activity, the potential of seismic hazards is low and projects would be required to complete individual project review and comply with local standards to reduce seismic hazards. Therefore, there would not be a significant increase in exposure of people in the Plan Area to risk of loss, injury, or death involving seismic activity.

Furthermore, all proposed development under the 2020 RTP/SCS would be assessed on a project-by-project basis and would be required to conform to all existing regional and local regulations to minimize impacts due to adverse effects involving liquefaction, landslides, or rupture of a known earthquake fault. Per requirements of TRPA Code of Ordinances Section 33.4, future development would be required to undergo site-specific geotechnical analysis, and if applicable, employ design standards that consider seismically active areas and comply with current California and Nevada building codes and local jurisdictional seismic standards. Because projects included in the 2020 RTP/SCS would result in a comparable level of risk related to ground rupture, ground shaking, liquefaction, and landslides as previously analyzed, and would similarly require site specific design per regional and local regulations, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The risk of soil erosion increases with increasing slope, precipitation, ground disturbance, and decreasing vegetative cover. The 2020 RTP/SCS would result in new construction over the planning period that could result in soil erosion through implementation of specific transportation projects. Removal of soil and vegetation exposes bare earth and could cause unstable conditions, resulting in soils that are easily disturbed by equipment and eroded by rain and wind. Additionally, proposed road/trail alignments situated on steep slopes in areas underlain by unstable geology or sensitive soils are prone to higher erosion hazard that could result in erosion of surface soils.

Implementation of projects under the 2020 RTP/SCS would include temporary disturbance of soil, exposure of disturbed areas to storm events, and/or excavation more than five feet below ground surface. Similar to the 2012 and 2017 RTP/SCS, future project development activities would likely include grading, excavations, cut and fill, and trenching, all of which could alter existing topography or ground surface of individual sites throughout the Plan Area. As discussed further in Section 10, Hydrology and Water Quality, construction projects in the Plan Area would be required to meet multiple requirements and regulations of the TRPA, LRWQCB (in California), Nevada Division of Environmental Protection, and federal and local agencies. These requirements include preparation of a Storm Water Pollution Prevention Plan (SWPPP) pursuant to the National Pollutant Discharge Elimination System (NPDES) Phase II Stormwater Program for projects larger than one acre and the implementation of BMPs for sediment and erosion control.

Additionally, Chapter 33 of the TRPA Code of Ordinances requires the preparation of soil reports to determine the effects of proposed grading activities on soil stability and groundwater where there

have been recorded landslides or topographical evidence of landslides and where proposed or existing cuts or fills will exceed 20 feet. Chapter 33 identifies various standards and regulations related to grading to protect against significant adverse effects from excavation, filling, and clearing. TRPA Code Section 33.3.6 prohibits excavation more than 5 feet below ground surface (or less in areas of known high groundwater) because of the potential for groundwater interception or interference, except under certain defined and permitted conditions. TRPA requires that final construction plans be submitted for review and conformance with TRPA rules, regulations, and ordinances as part of standard conditions of approval of a project. The existing procedure for granting grading season exceptions would remain unchanged for projects under the 2020 RTP/SCS. An assessment of site- and weather-specific conditions is performed prior to issuing grading season exceptions.

The 2020 RTP/SCS includes site-specific projects designed to improve erosion control within the context of the planned transportation facilities. All development pursuant to the 2020 RTP/SCS would be required to adhere to existing regulations and permit requirements, which reduce the potential for substantial soil erosion or loss of topsoil. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Development of land use and transportation projects under the 2020 RTP/SCS would likely require grading or earthwork, which would increase the propensity for soils to become unstable, thereby increasing the risk to people or structures. However, as mentioned above under CEQA items “a” and “b” and similar to the 2012 and 2017 RTP/SCS, all proposed projects would be assessed on a project-by-project basis and would be required to conform to existing regional and local regulations to minimize excessive grading and soil instability. Through adherence to existing laws and regulations, developments associated with the 2020 RTP/SCS would be required to undergo site-specific geotechnical analysis, pursuant to TRPA Code Section 33.4, and if applicable, would employ all standard design, grading, and construction practices to avoid or reduce geological hazards, including those associated with unstable soils and slope failure. Corrective measures such as structural reinforcement and using engineered fill to replace unstable soils would be applied to the design of individual future projects. All site designs would be reviewed and approved by the appropriate agencies. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Development of land use and transportation projects under the 2020 RTP/SCS could be located on expansive soil, thereby increasing the risk to life or property. However, as mentioned above under CEQA item "c," all proposed projects would be assessed on a project-by-project basis and would be required to undergo site-specific geotechnical analysis, pursuant to TRPA Code Section 33.4, and employ all standard design, grading, and construction practices to avoid or reduce geological hazards, including those associated with unstable soils. Additionally, corrective measures to replace unstable soils or implement structural reinforcement would be applied to the design of individual projects. All site designs would be reviewed and approved by the appropriate agencies. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The 2020 RTP/SCS does not propose to install septic systems as part of any of the new or modified projects or as part of the RTP/SCS. There would be no impact.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As stated in the 2012 RTP/SCS EIR/EIS, surfaces in the Plan Area were created by geologic uplift and have deep granitic bedrock and shallow surface soils. Because the Plan Area is not underlain with sedimentary rock formations (which are most likely to contain fossils), it is not likely to contain major paleontological resources. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Therefore, new and modified projects proposed as part of the 2020 RTP/SCS would not destroy a unique paleontological resource. There would be no impact.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 1 – Land

a. Will the proposal result in compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)?

Similar to the 2012 and 2017 RTP/SCS, new and modified projects included in the 2020 RTP/SCS have the potential to increase coverage in the Plan Area. All projects in the Plan Area are required to adhere to TRPA Code of Ordinances Chapter 30, *Land Coverage*, which sets forth regulations for the permissible amount of land coverage in the Plan Area, including land capability districts (LCDs), prohibition of additional land coverage in certain LCDs, and transfer and mitigation of land

coverage. Therefore, all new or modified projects included in the 2020 RTP/SCS that result in additional coverage would either be limited to the percent coverage allowed for each LCD set forth in TRPA Code of Ordinances Chapter 30 or required to compensate for added coverage in excess of the base allowable by identifying, purchasing, and transferring coverage from offsite parcels in accordance with TRPA Code of Ordinances Chapter 30.

In addition, proposed bicycle and pedestrian facilities (such as the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails) could extend into SEZs within the Plan Area. TRPA policy generally does not allow any new land coverage within SEZs but does provide certain exceptions, including public outdoor recreation facilities and Linear Public Service Facilities that meet certain criteria. Any future proposed bike and/or pedestrian trails that would result in new land coverage in an SEZ would be required to meet these specific criteria and to fully mitigate all potential impacts associated with its construction and operation.

The 2020 RTP/SCS land use scenario would continue to concentrate development within community centers, consistent with the current development pattern, and the location, distribution, density, and growth of the human population in the Plan Area would be expected to remain similar to those under the existing conditions. Therefore, new areas of the Plan Area would not be opened up to substantial development or land coverage and, as described in Section 14, *Population and Housing*, increases in the Plan Area population would be limited by the development rights and allocations of the IPES. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would result in a comparable level land coverage on highly capable lands as what was previously analyzed and would similarly require site specific design per regional and local regulations, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 and 2017 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Will the proposal result in a change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions?

Please refer to CEQA item “b” above, for a full discussion of potential changes in the topography or ground surface relief features of individual sites of development under the 2020 RTP/SCS.

Similar to the 2012 and 2017 RTP/SCS, future project development activities under the 2020 RTP/SCS would likely include grading, excavations, cut and fill, and trenching, all of which could alter existing topography or ground surface of individual sites throughout the Plan Area. Projects proposed under the 2020 RTP/SCS would be assessed on a project-to-project basis and would be required to conform to existing regional and local regulations to minimize excessive grading and soil instability. Therefore, impacts resulting from changes in the topography or ground surface relief features on individual sites would be less than significant. Projects under the 2020 RTP/SCS would additionally meet the requirements and regulations of TRPA, LRWQCB, NDEP, and federal and local agencies, which include coverage restrictions, implementation of BMPs, and grading and excavation permits. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Will the proposal result in unstable soil conditions during or after completion of the proposal?

Please refer to CEQA item "c" above for a discussion of impacts to unstable soil conditions from development under the 2020 RTP/SCS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Will the proposal result in changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?

Please refer to CEQA item "b" above, for a full discussion of potential changes in the undisturbed soil, native geologic substructures or grading in excess of five feet from development under the 2020 RTP/SCS.

As described under CEQA item "b," the 2020 RTP/SCS would include temporary disturbance of soil, exposure of disturbed areas to storm events, and/or excavation more than 5 feet below ground surface. Similar to the 2012 and 2017 RTP/SCS, future project development activities would likely include grading, excavations, cut and fill, and trenching, all of which could alter undisturbed soil or geologic substructures of individual sites throughout the Plan Area. All proposed projects would be assessed on a project-to-project basis and would be required to conform to existing regional and local regulations to minimize excessive grading and soil instability. Therefore, impacts due to soil disturbance or grading in excess of 5 feet would be reduced. Projects under the 2020 RTP/SCS would similarly meet the requirements and regulations of TRPA, LRWQCB, NDEP, and federal and local agencies, which include coverage restrictions, implementation of BMPs, and grading and excavation permits. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

e. Will the proposal result in the continuation of or increase in wind or water erosion of soils, either on or off the site?

Please refer to CEQA item "b" above, for a discussion of impacts from potential wind or water erosion on- or off-site of individual sites for development under the 2020 RTP/SCS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

f. Will the proposal result in changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake?

Please refer to CEQA item "c" in Section 10, *Hydrology and Water Quality*, for a discussion of impacts from erosion of beach sand, or changes in solution, deposition or erosion which may modify the channel of a river, stream, or the bed of a lake. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

g. Will the proposal result in exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?

Development of land use and transportation projects under the 2020 RTP/SCS would likely require grading or earthwork, which would increase the risk for people or property to be exposed to geologic hazards. As mentioned above under CEQA items "a" and "c" and similar to the 2012 and 2017 RTP/SCS, all new and modified projects under the 2020 RTP/SCS would be assessed on a project-by-project basis and would be required to conform to existing regional and local regulations to minimize excessive grading and soil instability. Through adherence to existing laws and regulations, developments associated with the 2020 RTP/SCS would be required to undergo site-specific geotechnical analysis, pursuant to TRPA Code Section 33.4, and if applicable, would employ all standard design, grading, and construction practices to avoid or reduce geological hazards, including earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards. Corrective measures such as structural reinforcement and using engineered fill to replace unstable soils would be applied to the design of individual future projects. All site designs would be reviewed and approved by appropriate agencies. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

8 Greenhouse Gas Emissions

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	2012 RTP/SCS EIR/EIS Impact 3.5-1 and Impact 3.5-2	No	No	No	Yes
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	2012 RTP/SCS EIR/EIS Impact 3.5-2	No	No	No	Yes
TRPA Environmental Checklist: Section 2 – Air Quality					
Will the proposal result in:					
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?	2012 RTP/SCS EIR/EIS Impact 3.5-1 and Impact 3.5-2	No	No	No	Yes

Discussion

The analysis in this section is based on the Greenhouse Gas Emissions Study prepared for the 2020 RTP/SCS by Rincon in August 2020. For detailed information on greenhouse gas (GHG) background, assumptions, and model outputs, please see Appendix G.

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the

past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed a high degree of confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called GHGs. The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2015).

Greenhouse Gas Emissions Inventory

Federal Emissions Inventory

Total United States (U.S.) GHG emissions were 6,676.6 million metric tons (MMT or gigatonne) of CO_2e in 2018. Since 1990, total U.S. emissions have increased by an average annual rate of 0.13 percent for a total increase of 3.7 percent since 1990. Emissions increased by 2.9 percent from 2017 to 2018. The increase from 2017 to 2018 was primarily driven by increased fossil fuel combustion because of multiple factors, including increased energy usage from greater heating and cooling needs due to a colder winter and hotter summer in 2018 as compared to 2017. In 2018, the transportation and industrial end-use sectors accounted for 36 percent and 26 percent, respectively, of GHG emissions while, the residential and commercial end-use sectors accounted for 20 percent and 17 percent of GHG emissions, respectively, with electricity emissions distributed among the various sectors (USEPA 2020).

California Emissions Inventory

Based on the California Air Resource Board's (CARB) California Greenhouse Gas Inventory for 2000-2017, California produced 424.1 MMT of CO_2e in 2017. The major source of GHG emissions in California is transportation, contributing 41 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 24 percent of the state's GHG emissions, and electric power accounts for approximately 15 percent (CARB 2019b). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In 2016, the State of California achieved its 2020 GHG emission reduction goals as emissions fell below 431 MMT of CO_2e. The annual 2030 statewide target emissions level is 260 MMT of CO_2e (CARB 2017).

Nevada Emissions Inventory

The Nevada Division of Environmental Protection prepares GHG emissions inventory for the State of Nevada pursuant to NRS 44B.380 and SB 254 passed in 2019. Based on NDEPS's Greenhouse Gas Inventory and Projections, 1990 to 2039, Nevada produced 38.34 MMT of CO_2e in 2016 (NDEP 2019). The major source of GHG emissions in Nevada is transportation, contributing to 35 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing approximately 32 percent. In 2016 Nevada contributed 0.68 percent of the total gross GHG emissions in the U.S. The annual 2030 statewide target emissions level for Nevada is 45 percent below 2005 emissions or 27.15 MM of CO_2e.

Local Emissions Inventory

The Lake Tahoe Sustainable Communities Program Sustainability Action Plan estimated that total emissions for the Lake Tahoe region were 1,398,554 MT of CO_2e (Lake Tahoe Sustainable Communities Program 2013). Electricity consumption, natural gas consumption, and transportation contribute approximately 75 percent of GHG emissions in the Region. Electricity consumption was the largest source of GHG emissions at 36 percent, followed by on-road transportation at 23 percent, and natural gas consumption at 17 percent. A regional GHG reduction target of 15 percent below the region's baseline by 2020 was recommended for the plan.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2015 to 2017 was approximately 1.8°F higher than the average GMST over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2020). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014, 2018).

Regulatory Background

Federal

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the USEPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the

New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 S. Ct. 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits otherwise required based on emissions of other pollutants, may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

On April 30, 2020, the USEPA and the National Highway Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO_2 emissions standards for model years 2021-2026 passenger cars and trucks such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase (National Highway Traffic Safety Administration 2020). To account for the effects of the Part Two Rule, CARB released off-model adjustment factors on June 26, 2020 to adjust criteria air pollutant emissions outputs from the EMFAC model (CARB 2020a).

State

CALIFORNIA

AB 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. If fully implemented, new automobiles would emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels by 2025 (CARB 2011). However, as a result of the SAFE Rule discussed above, fuel economy and GHG emission standards for new vehicles will increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase.

The "California Global Warming Solutions Act of 2006," AB 32, outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO_2e. CARB approved the Scoping Plan on December 11, 2008 and the Plan included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed SB 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state.

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a SCS, which allocates land uses in the MPO's RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") would receive incentives to streamline CEQA processing. On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. TRPA was assigned targets of an 8 percent reduction in GHG emissions from per capita passenger vehicles by 2020 and a 5 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to 2005 emission levels (CARB 2020b).

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from

eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

NEVADA

On April 10, 2007, Nevada Governor Jim Gibbons signed an executive order that created the Nevada Climate Change Advisory Committee (NCCAC). The executive order directed the NCCAC to develop recommendations for reducing Nevada's GHG emissions. The NCCAC released its final report on May 31, 2008 in which it identified recommendations to reduce GHG emissions in sectors such as agriculture, energy, waste management, commercial and residential building, and transportation.

In 2019, the Nevada state legislature passed SB 254, which requires the State Department of Conservation and Natural Resources to issue an annual report concerning GHG emissions in Nevada. The annual reports also include policies that could inform future policy development initiatives designed to reduce GHG emissions statewide. The inaugural report was released for 2019, with proposed policies including the adoption of California vehicle emissions standards, adopting a goal of achieving 100 percent electricity from renewable sources by 2050, and reducing methane emissions from the waste and wastewater sectors. SB 254 and Executive Order 2019-22, signed by Governor Sisolak on November 22, 2019, together with the increased Renewable Portfolio Standard approved by the Legislature in 2019, form the foundation of Nevada's efforts to address climate change through reducing GHG emissions from all parts of the economy, while driving innovative technologies and pursuing an inclusive and equitable transition to a sustainable, low-carbon economy.

The state of Nevada and its jurisdictions follow the air quality policies and regulations set forth by the Federal Highway Administration and the USEPA when evaluating the GHG emissions generated by the construction of road projects (Federal Highway Administration 2013).

Local

TRPA

In 1982, TRPA adopted nine environmental threshold carrying capacities (thresholds), which set environmental standards for the Lake Tahoe region and indirectly define the capacity of the Plan Area to accommodate additional land development. Thresholds define the environmental quality goals that the Regional Plan is required to achieve for matters including water quality, air quality, soil conservation, vegetation protection, fisheries, wildlife, scenic resources, noise and recreation. TRPA has not specifically identified any Environmental Threshold Carrying Capacities related to GHG emissions or climate change. The Lake Tahoe Regional Plan Goals and Policies document, which is designed to achieve and maintain adopted environmental thresholds, has one policy pertaining to GHG emissions (Policy AQ-1.3) that encourages the reduction of GHG emissions from motor vehicles and motorized machinery in the Plan Area. The TRPA Code of Ordinances includes a provision requiring that a GHG reduction strategy be incorporated into area plans adopted by local jurisdictions (TRPA Code Section 13.5.3.E) to reduce emissions of GHGs from operation and construction.

TRPA adopted a Sustainability Action Plan in December 2013, which provides tools to assist local governments, agencies, businesses, residents, visitors, and community groups with prioritizing and adopting consistent sustainability actions throughout the Region. The Sustainability Action Plan represents an integrated approach to reducing GHG emissions and striving toward zero-impact in all aspects of sustainability. The document includes the revised GHG emissions inventory, reduction

targets, and climate change and adaptation strategies. It is not a CEQA-qualified GHG reduction plan under which GHG impact analysis can be streamlined for new development projects

PLACER COUNTY APCD

Placer County APCD has adopted CEQA thresholds of significance for evaluating whether the GHG emissions of different types of projects would be a cumulatively considerable contribution to climate change in their *California Environmental Quality Act Thresholds of Significance Justification Report* (Placer County APCD 2016b). Placer County APCD recommends an array of GHG thresholds for determining whether a project's GHG emissions would be cumulatively considerable. Placer County APCD's recommendations are discussed in detail below.

CITY OF SOUTH LAKE TAHOE

As of the date of this document, the City of South Lake Tahoe is circulating a Draft Climate Action Plan that outlines actions the City needs to take to achieve carbon reduction targets. The Climate Action Plan focuses on reducing emissions by 2030 and 2040 to align with California reduction targets. The City has set local targets of reducing GHG emissions to approximately 124,000 MT CO_2e per year in 2030 and 50,000 MT CO_2e per year in 2040 (CSLT 2020).

Methodology

For this analysis, the baseline year was updated to 2018 from the 2014 baseline year used in the 2017 RTP/SCS IS/IEC. The 2018 baseline includes new VMT estimates that characterize more current conditions and use TRPA's recently-updated Travel Demand Model. In addition, the planning horizon for the 2020 RTP/SCS has been updated to 2045, which is five years longer than the previous projection year of 2040 under the 2017 RTP/SCS.

Mobile Source Emissions Modeling

GHG emissions from on-road mobile sources were calculated using emission factors from CARB's EMFAC2017 model, off-model adjustment factors to account for the effects of the SAFE Vehicles Rule, and regional VMT from TRPA's Travel Demand Model, shown in Table 8. Consistent with the methodology used in the 2012 RTP/SCS EIR/EIS and 2017 IS/IEC,TRPA assumes that the vehicle fleet information contained in the EMFAC2017 model for the Lake Tahoe subareas of Placer and El Dorado counties would be representative of vehicles throughout the LTAB because the factors that determine vehicle choice (e.g., lifestyle, mobility, environmental, and local economic factors) do not differ dramatically throughout the region. Therefore, for the purposes of modeling mobile source criteria pollutant emissions, VMT in Nevada was distributed proportionally between the Lake Tahoe subareas of Placer and El Dorado counties.

Table 8 2020 RTP/SCS Annual VMT Data

Year	California	Nevada
2005	333,255,698	228,932,039
2018	289,919,549	199,044,756
2035	293,350,382	193,623,683
2045	300,106,817	194,542,687

VMT = vehicle miles traveled
Source: TRPA 2020d

EMFAC2017 emission factors are established by CARB and incorporate mobility assumptions (e.g., vehicle fleets, speed, delay times, average trip lengths, time of day and total travel time) provided by TRPA's Travel Demand Model and socioeconomic growth projections based on data from the UCLA Anderson Forecast, California Department of Finance, California Board of Equalization, California Energy Commission, U.S. Department of Energy, Energy Information Administration, and U.S. Bureau of Economic Analysis. Following adoption of the 2017 IS/IEC, CARB released EMFAC2017, replacing EMFAC2014, the model that was used in the 2017 RTP/SCS IS/IEC to estimate mobile source emissions in California and Nevada. EMFAC2017 accounts for updated fleet characterization, vehicle activity profile, and socio-econometric forecasting data; new vehicle testing data for emission rates; updated assumptions on the Advanced Clean Cars regulation; and implementation of new regulations and policies including Phase 2 GHG standards for heavy-duty vehicles and the Road Repair and Accountability Act of 2017 (SB 1). To account for the effects of the SAFE Vehicle Rule on mobile source GHG emissions, off-model adjustment factors published by CARB (2020) were applied to CO_2 emissions from gasoline-powered passenger cars (LDA) and light duty-trucks (LDT1, LDT2, and MDV).[6] Projected vehicle emissions on the TRPA transportation network for the year 2045 under the 2020 RTP/SCS were compared with emissions estimated for baseline year 2018.

Table 9 provides a comparison of weighted average running exhaust emissions factors for CO_2 for the TRPA region using EMFAC2014 (utilized to model emissions in the 2017 RTP/SCS IS/IEC) and EMFAC2017 (utilized in this analysis). As shown in Table 9, the weighted average running exhaust emission factor in EMFAC2017 for CO_2 is 11 percent lower than that of EMFAC2014. See discussion in Section 3, *Air Quality*, for methodology of modeling the one new water taxi project (North Shore Water Taxi Project Phase 2035) proposed under the 2020 RTP/SCS.

6 The definition of light-duty trucks in the SAFE Vehicles Rule correlates to the definitions of LDT1, LDT2, and MDV by CARB in the EMFAC2017 model (CARB 2019d and 2020d).

Table 9 Weighted Average Emissions Factors for Vehicle Travel in the TRPA Jurisdiction in 2045

On-Road Mobile Source Emissions Model	CO_2 Emissions Rate (grams/mile)
EMFAC2014	322.07
EMFAC2017	286.02
Percent Change	(11%)

CO_2 = carbon dioxide

Note: Weighted average emissions rates are based on RUNEX emissions for each pollutant, including off-model adjustments for the effects of the SAFE Rule per CARB guidance (CARB 2020a).

See Appendix F for calculations.

SB 375 Analysis

To determine whether the 2020 RTP/SCS would allow TRPA to meet its SB 375 reduction targets, per capita CO_2 emissions were calculated by multiplying the emission factors by the VMT from passenger vehicles and dividing by the region's population. For this analysis, emission factors were generated using the SB 375 template in EMFAC, which deactivates Advanced Clean Cars (Pavley) and Low Carbon Fuel Standards. For the purposes of this analysis, the year 2005 is used as the baseline year per the requirements of SB 375. In accordance with CARB guidance, the same methodology and version of EMFAC (i.e., EMFAC2014) was utilized for SB 375 modeling for the 2045 RTP/SCS to provide a consistent comparison of per capita CO_2 emissions with the SB 375 targets (CARB 2019b, Appendix D). Furthermore, per CARB guidance, off-model adjustment factors related to the SAFE Rule were not applied in this analysis because EMFAC2017 does not account for the impact of light duty ZEV and GHG emissions standards when used in SB 375 mode (CARB 2020a). In addition to estimating per capita passenger vehicle emissions for years 2035 and 2045, emissions were recalculated for baseline year 2005 to account for updates made to the TRPA Travel Demand Model in 2020, which included calibrating and validating the model against traffic counts that represent a typical early/late summer weekday. The purpose of the updates was to create consistency between observed traffic counts, the original model design, the model inputs, and the subsequent model outputs. The result of these adjustments is a model that better represents on-the-ground travel conditions. In comparison, the former travel demand model originally used to calculate the SB 375 baseline for year 2005 was validated with data that more closely represented a busy summer weekend. To provide an accurate comparison between 2035 and 2045 VMT estimates and baseline year 2005 estimates, TRPA staff adjusted a portion of the 2005 inputs and re-ran the 2005 scenario in the updated Travel Demand Model. In particular, staff adjusted the visitor-related inputs by factoring down the visitor occupancy rates for year 2005 used in the original Travel Demand Model to align with the year 2018 visitor occupancy rates based on lodging occupancy data. All other inputs (e.g., employment, residential units) from 2005 were retained. The result of utilizing the updated Travel Demand Model and visitor occupancy rate adjustment was to decrease the daily VMT per capita baseline from approximately 25.2 VMT to approximately 21.59 VMT (TRPA 2020c, 2020f). In consultation with TRPA, CARB expressed support for this approach to the SB 375 analysis for the 2020 RTP/SCS (CARB 2020c).

Significance Thresholds

On October 13, 2016, Placer County APCD adopted revised CEQA thresholds of significance for evaluating whether the GHG emissions of different types of projects would be a cumulatively considerable contribution to climate change (Placer County APCD 2016b). No thresholds of significance for evaluating GHG emissions have been adopted by the El Dorado County AQMD or the State of Nevada. Therefore, the net change in GHG emissions from existing conditions in the Plan Area is compared to the Placer County APCD thresholds, consistent with the air quality analysis in the 2017 RTP/SCS IS/IEC.

Placer County APCD's revised thresholds are supported by Placer County APCD's *California Environmental Quality Act Thresholds of Significance Justification Report* released in September 2016 (Placer County APCD 2016b). Placer County APCD's proposed GHG thresholds reflect the CEQA projects reviewed by Placer County APCD over the last 13 years (2003 to 2015) and the CEQA significance thresholds adopted by other air districts in the Sacramento area. Placer County APCD recommends the following hierarchy of GHG thresholds for determining whether a project's GHG emissions would be cumulatively considerable. No thresholds of significance for evaluating GHG emissions have been adopted by the El Dorado County AQMD or the State of Nevada; therefore, for the 2020 RTP/SCS, the net change in GHG emissions from existing conditions in the Plan Area was evaluated in light of the following Placer County APCD thresholds, consistent with the analysis in the 2017 RTP/SCS IS/IEC:

1. To start, the operational emissions of a land use project should be compared to de minimis level of 1,100 MT of CO_2e per year. If the de minimis level if not exceeded, the project's GHG emissions would be less than cumulatively considerable. No further analysis is necessary.
2. If project emissions exceed the de minimis level but emissions are less than the bright-line threshold of 10,000 MT of CO_2e per year, the operational emissions of a land use project should be compared to the thresholds contained in the efficiency matrix, which provides four efficiency thresholds for use depending on whether the project is rural or urban and residential or non-residential (e.g., 4.5 MT of CO_2e per year per capita and 26.5 MT of CO_2e per year per 1,000 square feet for residential and non-residential land uses in urban areas, respectively) (Placer County APCD 2016). If the applicable efficiency threshold is not exceeded, the project's GHG emissions would be less than cumulatively considerable.
3. If a land use project's construction emissions or a stationary source project's construction and operational emissions exceed the bright-line threshold of 10,000 MT of CO_2e per year, the project's GHG emissions would be cumulatively considerable regardless of the project's GHG efficiency.

CEQA Environmental Checklist

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction Emissions

The types of short-term construction-generated emission activity would generally be the same under the 2020 RTP/SCS as the 2017 RTP/SCS. The differences between the 2017 RTP and the 2045 RTP consist of adding over 40 new minor projects, modifying several projects that remain on the list, and removing projects that have been completed since 2017. New projects under the 2020 RTP/SCS are similar in type to those included in the 2017 RTP/SCS and include construction of bikeways,

trails, sidewalks; installation of complete streets improvements and variable speed signs; improvements to parking management and wayfinding; and operation and maintenance activities for existing roadways and transit, bicycle, and pedestrian facilities. The 2045 RTP would also include the remaining 92 yet-to-be-completed projects as under the 2017 RTP/SCS, some of which are currently being implemented.

The 2020 RTP/SCS would result in construction related GHG emissions associated with several transportation infrastructure projects. One of the two largest infrastructure construction projects in the 2012 RTP, State Route 89/Fanny Bridge Community Revitalization Project, has been approved and construction has been initiated, with two of three traffic circles completed. As discussed in the 2017 RTP/SCS IS/IEC, the project-level analysis of the Route 89/Fanny Bridge concluded that construction-related GHG emissions would be less than significant (see Impact 4.6-1 of the Route 89/Fanny Bridge EIR/EIS/EA [TRPA 2015]). Projects listed in the 2020 RTP/SCS would be constructed at an equivalent or smaller scale than the Route 89/Fanny Bridge Community Revitalization Project, based on current project descriptions and a comparison of anticipated construction costs and project type (TRPA 2020e). As discussed in the 2017 RTP/SCS IS/IEC, although detailed construction information for transportation projects in the RTP is not known at this time, use of heavy-duty equipment, construction worker commute trips, material deliveries, and vendor trips would be involved. These activities would result in GHG emissions that would be finite in duration, but when all the construction projects are considered together over the implementation period of the RTP, construction-related emissions of GHGs could be substantial without environmentally protective policies and/or mitigation measures. However, implementation of Mitigation Measure 3.5-1 from the 2012 RTP/SCS EIR/EIS has occurred via the adoption of TRPA's Best Construction Practices Policy, which provides environmental protections. Projects would have to demonstrate compliance with TRPA's Best Construction Practices Policy as a condition of approval. The policy would require reductions in construction generated GHGs.

The land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development under the 2020 RTP/SCS is anticipated to increase through years 2035 and 2045, in keeping with State-mandated housing (Appendix D). These increases would accommodate slight increases to full-time residential population and a greater increase in day and overnight visitors to the Plan Area, which will result in continued and increased use of overnight lodging facilities. Although the 2020 RTP/SCS does not facilitate or propose new residential, commercial, or visitor-serving development and the transportation projects would introduce minimal land use changes, the growth anticipated in this update is less than that analyzed in the 2012 RTP/SCS EIR/EIS. The 2012 analysis anticipated a 2035 population of 60,365 residents in the Lake Tahoe region; however, the current 2020 regional forecast anticipates a 2045 population of 58,041 residents (Appendix D). Therefore, current anticipated population growth is thus less than previously anticipated growth under the 2012 RTP/SCS EIR/EIS. Regional population increase is therefore expected to be consistent with that estimated during previous planning processes in 2012 and 2017. Overall, substantial and adverse impacts from GHG emissions would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

Operational GHG Emissions

Updated GHG emissions modeling results for the 2020 RTP/SCS are summarized in Table 10. No thresholds of significance for evaluating GHG emissions have been adopted by the El Dorado County AQMD or the State of Nevada; therefore, the net change in GHG emissions from existing conditions in the Plan Area is compared to the Placer County APCD de minimis level of 1,100 MT of CO_2e per year, consistent with the air quality analysis in the 2017 RTP/SCS IS/IEC. As shown in Table 10, GHG emissions modeling for the 2020 RTP/SCS indicates a reduction of approximately 77,995 MT of CO_2e as compared to the 2018 baseline. The estimated reduction in mobile source emissions is primarily due to stricter fuel efficiency and vehicle emissions standards such as the Corporate Average Fuel Economy standards that will phase in over the planning period as reflected in EMFAC2017 emission factors. Because emissions would decrease as compared to 2018 baseline conditions, emissions associated with the 2020 RTP/SCS would not exceed Placer County APCD's recommended de minimis level of 1,100 MT of CO_2e per year, which TRPA has used to evaluate GHG emissions. Therefore, operational GHG emissions associated with the 2020 RTP/SCS would be less than significant and would not be cumulatively considerable, similar to those identified in the 2017 RTP/SCS IS/IEC and less than those identified in the 2012 RTP/SCS EIR/EIS. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Table 10 2020 RTP/SCS Net Change in Daily Basinwide Operational Emissions (2018-2045)

Source	Emissions (MT of CO2e/year)
On-road Mobile Sources[1]	(81,394)
Waterborne Transit[2] and Water Taxi Service[3]	3,399.1
Total Net Change (2018-2045)	**(77,994.9)**
Placer County APCD De Minimis Level	1,100
Threshold Exceeded?	No

[1] Emission modeling completed using EMFAC 2017 and CARB's off-model adjustment factors to account for SAFE Vehicles Rule implementation.

[2] Waterborne transit emissions were sourced from the 2012 RTP/SCS EIR/EIS.

[3] Emission modeling for the North Shore Water Taxi Project Phase 2035 was completed using Harbor Craft, Dredge and Barge Emission Factor Calculator.

( ) denotes a negative number.

MT = metric tons; CO_2e = carbon dioxide equivalents; APCD = Air Pollution Control District

See Appendix F for EMFAC results and Harbor Craft, Dredge and Barge Emission Factor Calculator results.

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b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Construction-Generated Greenhouse Gas Emissions

As discussed under CEQA item a, the types and amount of GHG-generating construction activity under the 2020 RTP/SCS would be mitigated to less-than-significant conditions under the implementation of TRPA's Best Construction Practices Policy and Mitigation Measure 3.5-1 from the 2012 RTP/SCS EIR/EIS. The effectiveness of TRPA's Best Construction Practices Policy is demonstrated in the environmental analysis of the Route 89/Fanny Bridge Community Revitalization Project, one of the largest projects under the 2012 RTP/SCS, which concluded that construction-related GHG emissions would be less than significant. Thus, construction-related emissions of projects under the 2020 RTP/SCS, which are similar in scope to projects in the 2012 RTP/SCS and 2017 RTP/SCS, would not result in a substantial contribution to global climate change and would not conflict with the 2017 Scoping Plan and the GHG reduction target specified SB 32. Thus, the 2020 RTP/SCS would not result in emissions that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG.

Operational Greenhouse Gas Emissions

The 2012 RTP/SCS EIR/EIS found that the 2012 RTP/SCS would be consistent with SB 375 requirements and California GHG reduction goals, and the 2017 RTP/SCS IS/IEC found that the RTP/SCS would also be SB 375 requirements and California GHG reduction goals. The 2017 RTP/SCS IS/IEC determined that the region would reduce per capita GHG emissions from passenger vehicles by 8.8 percent by 2020 and 5.0 percent by 2035. In November 2018, CARB released an executive order formally accepting TRPA's determination that the 2017 RTP/SCS would meet the region's GHG emission reduction targets (CARB 2018a).

VMT for the California portion of the Lake Tahoe region under the 2020 RTP/SCS were obtained from the TRPA travel demand model (TRPA 2020d). Per capita GHG emissions associated with passenger vehicles for baseline year 2005 were re-calculated for the purposes of this analysis using the updated TRPA Travel Demand Model, which was also used to calculate VMT forecasts for years 2035 and 2045. In consultation with TRPA, CARB expressed support for this approach to the SB 375 analysis for the 2020 RTP/SCS (CARB 2020c).

Mobile-source emissions associated with VMT from automobiles, light-duty trucks were estimated using the SB 375 Scenario Analysis tool in EMFAC2014 to provide a consistent comparison with the SB 375 targets per CARB's guidance (CARB 2019b, Appendix D).. Results of mobile-source GHG emissions modeling from automobiles and light-duty trucks are summarized below in Table 11. As shown therein, the 2020 RTP/SCS would result in an approximately 12 percent reduction in per capita CO_2 emissions from passenger vehicles by 2035, which would achieve the mandated five percent reduction under SB 375. Because the SB 375 targets are consistent with the objectives of SB 32, the 2020 RTP/SCS is therefore consistent with SB 32.

Table 11 California side Per Capita Carbon Dioxide Emissions : Passenger Vehicles

	2005 Baseline (per SB 375)	2035	2045
Annual Average Daily Total VMT per Capita[1]	21.59	19.94	19.68
GHG Emissions (tons/day)	388.8	345.5	352.9
Population[2]	41,338	41,951	43,468
Per Capita Passenger Vehicle GHG Emissions (pounds/person/day)	18.81	16.47	16.24
Percent Change from in Per Capita GHG Emissions from 2005		-12.4%	-13.7%
SB 375 Target		-5%	n/a[3]
SB 375 Target Met?		Yes	n/a[3]

[1] Source: TRPA 2020c

[2] Source: Appendix D

[3] SB 375 targets have not been adopted for post-2035 years.

See Appendix F for SB 375 calculations.

The 2020 RTP/SCS would implement a suite of transportation improvement projects and facilitate a land use scenario that is consistent with the transportation sustainability goals of the 2017 Scoping Plan. The land use scenario envisioned by the 2020 RTP/SCS concentrates the forecasted growth in population and employment in already urbanized areas to reduce VMT. Corridors and an Active Transportation projects would implement complete street design policies, closing gaps in the trail network, prioritize transit, biking, and walking along Route 89, Sierra Boulevard, Meyers Corridor, U.S. Highway 50 south and east, and Kahle Drive as well as at select locations in Tahoe City and the Nevada portion of the region. In addition to the Corridors projects, Active Transportation projects would increase the number, safety, and connectivity, and attractiveness of biking and walking facilities by adding sidewalks, trails, bike lanes, crosswalks, intersection improvements, pedestrian bridges, and signage throughout the Lake Tahoe region. Furthermore, the 2020 RTP/SCS includes Transit projects designed to maintain, enhance, and expand transit service offered by the two public transit agencies, the Tahoe Transportation District and Tahoe Area Regional Transit and private operators of Transit for the Tahoe Area as well as expand waterborne transit service via water taxis. In conjunction with the Corridors and Active Transportation projects, the Transit projects would increase the availability of low carbon mobility options in the region. The 2020 RTP/SCS also includes a project to fund additional battery electric buses at the Lake Tahoe Community College transfer terminal and to purchase transit buses for the Tahoe Transportation District that may be battery electric, thereby contributing to the 2017 Scoping Plan's goals of increasing the penetration of zero emission vehicles in non-light-duty sectors and electrifying the transportation sector.

The 2012 RTP/SCS EIR/EIS determined that the 2012 RTP/SCS would result in a net increase in GHG emissions of approximately 36,778 MT of CO_2e per year, and the 2017 RTP/SCS IS/IEC found that the 2017 RTP/SCS would result in a net decrease in GHG emissions of approximately 100,452 MT of CO_2e per year. Although the 2020 RTP/SCS would result in a smaller net decrease in GHG emissions (approximately 77,995 MT of CO_2e per year as show in Table 10) than the 2017 RTP/SCS, emissions

would remain substantially lower than those analyzed in the 2012 RTP/SCS EIR/EIS and would still result in a net decrease in GHG emissions compared to baseline conditions. Therefore, the 2020 RTP/SCS would be consistent with the goals of the 2017 Scoping Plan and SB 32 as it would decrease GHG emissions compared to existing conditions. Impacts would be less than significant, consistent with those identified in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

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TRPA Environmental Checklist

Section 2 – Air Quality

c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Similar to the conclusions of the 2017 RTP/SCS IS/IEC, the 2045 RTP program of projects are not of sufficient size to alter the climate of the local project area or the Lake Tahoe Region. Please see the discussion under CEQA items “a” and “b” for an analysis of GHG emissions. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

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9 Hazards and Hazardous Materials

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist Would the project:					
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	2012 RTP/SCS EIR/EIS Impact 3.14-1	No	No	No	N/A
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	2012 RTP/SCS EIR/EIS Impact 3.14-1	No	No	No	N/A
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	2012 RTP/SCS EIR/EIS Impact 3.14-1	No	No	No	N/A
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	2012 RTP/SCS EIR/EIS Impact 3.14-2	No	No	No	Yes

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	2012 RTP/SCS EIR/EIS Impact 3.14-4	No	No	No	N/A
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	2012 RTP/SCS EIR/EIS Impact 3.13-5	No	No	No	Yes
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	2012 RTP/SCS EIR/EIS Impact 3.14-3	No	No	No	N/A
TRPA Environmental Checklist: Section 10 – Risk of Upset					
Will the proposal:					
a. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions?	2012 RTP/SCS EIR/EIS Impact 3.14-1	No	No	No	N/A
b. Involve possible interference with an emergency evacuation plan?	2012 RTP/SCS EIR/EIS Impact 3.13-5	No	No	No	Yes

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
TRPA Environmental Checklist: Section 17 – Human Health					
Will the proposal result in:					
a. Creation of any health hazard or potential health hazard (excluding mental health)?	2012 RTP/SCS EIR/EIS Impact 3.14-1, 3.14-2, 3.14-5	No	No	No	Yes
b. Exposure of people to potential health hazards?	2012 RTP/SCS EIR/EIS Impact 3.14-1	No	No	No	N/A

Discussion

Construction of transportation and land use projects included in the 2020 RTP/SCS could result in transport of hazardous materials or temporarily expose people and the environment to hazardous conditions. New and modified projects added to the 2020 RTP/SCS that may have hazardous material impacts due to increased construction and ground-disturbing activities include, but are not limited to, the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails, segments of the Nevada Stateline to Stateline Bikeway, the Pope Beach bike path, and the Route 89 Class I and Lake Side Phase 2C bike trails. Other projects include safety improvements and complete streets project improvements such as additions of sidewalks along Interstate 50 from Kingsbury Grade to Lake Parkway as well as rehabilitation of roads, bike and pedestrian facilities generally within existing urbanized areas and road right of ways. Projects would also be subject to local jurisdiction safety and hazardous materials standards as well as state and federal regulations.

The 2020 RTP/SCS includes projects aimed at achieving the goals of improving safety and security for all users of the local transportation system and providing efficient transportation network through coordinated operations, system management, technology, monitoring, and targeted investments. Policy 3.5 of the 2020 RTP/SCS promotes design techniques for projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points and encourages increasing safety signage, site distance, and other safety features, as appropriate. Several active transportation projects, including Class I trails, in the 2020 RTP/SCS are aimed at improving public safety by separating pedestrians and bicyclists from roadways. Additionally, Policy 3.4 would support emergency preparedness and response planning, including the development of regional evacuation plans.

CEQA Environmental Checklist

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

New and modified projects included in the 2020 RTP/SCS would not be substantially different in terms of geographic location, type of project, or size to those included in the 2012 or 2017 RTP/SCS. In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2012 and 2017 RTP/SCS. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS could potentially facilitate the transport of hazardous materials on roadways within the Plan Area but would not directly result in a transportation related hazard. All transport of hazardous materials would be required to comply with existing laws and regulations, such as the federal Resource Conservation and Recovery Act (RCRA) and the state Hazardous Waste Control Act and California Vehicle Code. In California, transportation of hazardous materials on roadways is regulated by the California Highway Patrol and Caltrans, and the use of these materials is regulated by California Department of Toxic Substances Control (DTSC). In Nevada, the transportation of hazardous materials on area roadways is regulated by the Nevada Highway Patrol. The use of these materials in Nevada is regulated by Nev-OSHA, and Nevada's Hazardous Waste Management Program regulations. This would ensure that the transport of hazardous materials and the release of hazardous materials would be adequately controlled. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

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c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

New and modified projects included in the 2020 RTP/SCS would not be substantially different in terms of geographic location, type of project, or size to those included in the 2012 or 2017 RTP/SCS. In addition, the land use scenario envisioned by the 2020 RTP/SCS is similar to that contained in the 2012 and 2017 RTP/SCS. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS would include construction activities associated with the transportation projects could involve the short-term use and storage of hazardous materials (e.g., asphalt, fuel, lubricants, paint) typical of transportation improvement projects (e.g., bicycle and pedestrian trails, shoulder expansion, bridge construction, etc.). As noted in the 2012 RTP/SCS EIR/EIS, several schools are located throughout the Plan Area. Future transportation projects under the 2020 RTP/SCS could be located within 0.25 miles of an existing or proposed school. However, all materials would be used, stored, and disposed of in accordance with applicable federal, state, and local laws, as described above under CEQA items "a" and "b." This would ensure that the handling of hazardous substances within proximity to schools would be adequately controlled. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature,

scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Similar to the 2012 and 2017 RTP/SCS, construction activities for transportation projects associated with the 2020 RTP/SCS may involve construction through, or next to contaminated sites, or sites known to produce hazardous waste materials, leading to disturbance and release of hazardous materials. For example, the Pavement Preservation project from the Route 28/Route 89 Junction to the Nevada State Line would traverse several open and closed leaking underground storage tank (LUST) cleanup sites and cleanup program sites (DTSC 2020; SWRCB 2020). Therefore, this impact would be potentially significant, similar to the 2017 RTP/SCS, and would require implementation of Mitigation Measure 3.14-1 included in the 2012 RTP/SCS EIR/EIS. This measure requires individual projects to consult all known databases of contaminated sites to determine if that project is located on or near a listed site, and to develop an appropriate remediation plan. Additionally, per the requirements of Mitigation Measure 3.14-1 from the 2012 RTP/SCS EIR/EIS, if hazardous areas of project sites cannot be avoided, prior to construction a Phase I Environmental Site Assessment (ESA) will be conducted by a qualified professional and recommendations of this Phase I ESA shall be implemented.

Implementation of Mitigation Measure 3.14-1 from the 2012 RTP/SCS would ensure that all necessary procedures are taken to identify sites that contain potentially hazardous materials. If sites containing hazardous materials are found to be on or near a proposed project, proper precautions would be taken to avoid contamination to construction workers or the environment. Overall, substantial and adverse impacts related to hazardous materials sites would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

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e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

Most of the projects included in the 2020 RTP/SCS would not result in safety hazards to people from an airport because they would be located over two miles away from the airport. Additionally, projects that only involve maintenance activities would not include any new structures or residences and therefore would not expose people to safety hazards or excessive noise from airports. However, similar to the 2012 and 2017 RTP/SCS, some new or modified projects included in the 2020 RTP/SCS would result in construction activities in close proximity to the City of South Lake Tahoe Airport. Bike and pedestrian projects west of U.S. Highway 50, as well as the TTD Transit Capital Improvement projects would be close to the South Lake Tahoe Airport.

The three safety concerns addressed in the Lake Tahoe Airport Comprehensive Land Use Plan (CLUP) address height restrictions, noise compatibility, and safety of persons on the ground (CSLT 2007). New or modified 2020 RTP/SCS projects would not result in the construction of tall buildings or structures in the vicinity of the airport that would violate the Airport CLUP airport height restriction policy. In addition, these projects would not introduce new residences close to the Airport or allow more intensive nearby development. Therefore, projects that could potentially expose people to risks from airplanes or airports would comply with the Lake Tahoe Airport CLUP. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Similar to the 2012 and 2017 RTP/SCS, construction of new and modified projects included in the 2020 RTP/SCS could affect emergency services including implementation of an adopted emergency response or evacuation plan. Depending on the timing, location, and duration of construction activities, several of the projects included in the 2020 RTP/SCS, including intersection improvements, roadway and bikeway enhancements, and maintenance activities, could delay emergency vehicle response time or otherwise disrupt delivery of emergency services. By closing off one or more lanes of a roadway, emergency routes could be impaired; causing traffic delays and ultimately preventing access to calls for service. Thus, this impact would be potentially significant and Mitigation Measure 3.13-5 in the 2012 RTP/SCS EIR/EIS would be required. This measure requires TRPA to prepare and implement a traffic control plan (TCP) such that construction activities are coordinated with affected agencies to ensure emergency access is not substantially deteriorated.

Additionally, pursuant to TRPA Code of Ordinances Section 22.7.6, *Traffic Mitigation*, construction of transportation and land use projects under the 2020 RTP/SCS requiring lane or intersection closures of a state or federal highway for more than one hour, or the closure of U.S. Highway 50 at any point between the South Y and Kingsbury Grade for any period of time, would be required to submit a traffic analysis for review that includes measures necessary to mitigate all traffic impacts to a level consistent with TRPA thresholds. Adherence to this standard would reduce potential for construction to temporarily impair implementation of an emergency response or evacuation plan.

As described above under the Discussion, the 2020 RTP/SCS includes safety and complete streets project improvements such as additions of sidewalks along U.S. Highway 50 from Kingsbury Grade to Lake Parkway as well as rehabilitation of roads, bike and pedestrian facilities generally within existing urbanized areas and road right of ways. These projects are consistent with Policy 3.4 of the 2020 RTP to support emergency preparedness and response planning. Further, adherence to Mitigation Measure 3.13-5 would reduce short-term impacts to the implementation emergency response or evacuation plan because individual projects would be required to prepare a TCP such that construction activities are coordinated with affected agencies to ensure emergency response times are not substantially deteriorated. Overall, substantial and adverse impacts related to emergency response or evacuation would remain less than significant with implementation of existing TRPA policies and mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar

to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

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g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC discussed the potential for transportation and land use projects to expose people or structures to significant risk of loss, injury, or death involving wildland fires. This previous environmental analysis concluded that although some level of construction activities would take place, these activities would have no effect on fuel loading or defensible space. Similar to the 2012 and 2017 RTP/SCS, new and modified projects under the 2020 RTP/SCS would be required to adhere to the policies and standards for maintaining defensible space and reducing fuel load. Specifically, Natural Hazards, Goal 1, Policy 3 of the Land Use Element of TRPA's Regional Plan that encourages the use of fire-resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. This policy also requires that forest fuels are managed to be consistent with state laws and other goals and policies of the Regional Plan. TRPA Code of Ordinances Section 61.3.6(D), *Vegetation Management to Prevent the Spread of Wildfire*, requires that in areas of significant fire hazard, as determined by local, state, or federal fire agencies, flammable or other combustible vegetation shall be removed, thinned, or manipulated in accordance with local and state law.

As development continues throughout the Plan Area, projects would be required to consider regional fire hazards and include measures to ensure that defensible space is maintained, and excessive fuel is reduced. In California, Public Resources Code 4291 requires 100 feet of defensible space around homes in high fire risk areas. Additionally, in Washoe County, Nevada, all projects requiring a building permit must establish and maintain defensible space surrounding structures in accordance with the 2018 International Wildland Urban Interface Code. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe wildland fire impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 10 – Risk of Upset

a. Will the proposal involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions?

Please refer to CEQA items "a," "b," and "c" above, for a discussion of the potential risk of an explosion or release of hazardous substances. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Will the proposal involve possible interference with an emergency evacuation plan?

Please refer to CEQA item "f" above, for a discussion of interference with emergency evacuations plans. Adherence to Mitigation Measure 3.13-5 would reduce short-term impacts to the implementation emergency response or evacuation plan because individual projects would be required to prepare a TCP such that construction activities are coordinated with affected agencies to ensure emergency response times are not substantially deteriorated. Overall, substantial and adverse impacts related to emergency response or evacuation would remain less than significant with implementation of existing TRPA policies and mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

Section 17 – Human Health

a. Will the proposal result in creation of any health hazard or potential health hazard (excluding mental health)?

The 2012 and 2017 RTP/SCS discussed the risk of vector-borne diseases that pose potential public health hazards to people living in the Plan Area. Various environmental factors such as climate, topography, vegetation, and standing water can influence the extent and duration of available breeding habitat for mosquito populations, which act as vectors for the West Nile virus and other illnesses. Vector control districts with jurisdiction in the Plan Area periodically use truck-mounted fogging units to apply insecticides as an ultra-low-volume spray to control adult mosquito populations.

New and modified projects under the 2020 RTP/SCS could include new treatment wetlands or detention basins for TMDL projects within the Plan Area. Additional wetlands could serve as potential breeding grounds for mosquito populations. However, these projects would be easily accessible for vector control strategies and would not conflict with the ability of county and/or state agencies to conduct appropriate mosquito abatement and control measures and programs

throughout the Plan Area. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS,

Similar to the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would not result in any change with regard to allowable uses of pesticides in the Plan Area. Thus, by maintaining access for vector control agencies to conduct mosquito control and abatement measures, impacts to public health associated with mosquito-borne illnesses would be less than significant.

NO

b. Will the proposal result in exposure of people to potential health hazards?

Please refer to item "a" of the *TRPA Environmental Checklist-Human Health* above, for a discussion of the exposure of people to potential health hazards, specifically those related to vector-borne diseases.

NO

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10 Hydrology and Water Quality

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist Would the project:					
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	2012 RTP/SCS EIR/EIS Impacts 3.8-1, 3.8-2, 3.8-3, 3.8-4	No	No	No	N/A
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	2012 RTP/SCS EIR/EIS Impact 3.8-7	No	No	No	N/A
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:					
(i) Result in substantial erosion or siltation on- or off-site;	2012 RTP/SCS EIR/EIS Impact 3.8-5	No	No	No	N/A
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	2012 RTP/SCS EIR/EIS Impact 3.8-5	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	2012 RTP/SCS EIR/EIS Impact 3.8-2	No	No	No	N/A
(iv) Impede or redirect flood flows?	2012 RTP/SCS EIR/EIS Impact 3.8-6	No	No	No	N/A
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	2012 RTP/SCS EIR/EIS Impact 3.7-2	No	No	No	N/A
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	2012 RTP/SCS EIR/EIS Impact 3.2-2	No	No	No	N/A
TRPA Environmental Checklist: Section 3 – Water Quality					
Will the proposal result in:					
a. Changes in currents, or the course or direction of water movements?	2012 RTP/SCS EIR/EIS Impact 3.8-5	No	No	No	N/A
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 year 1 hour storm runoff (approximately 1 inch per hour) cannot be contained on the site?	2012 RTP/SCS EIR/EIS Impact 3.8-2	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
c. Alterations to the course or flow of 100-yearflood waters?	2012 RTP/SCS EIR/EIS Impact 3.8-6	No	No	No	N/A
d. Change in the amount of surface water in any water body?	2012 RTP/SCS EIR/EIS Impact 3.8-2	No	No	No	N/A
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	2012 RTP/SCS EIR/EIS Impact 3.8-2	No	No	No	N/A
f. Alteration of the direction or rate of flow of ground water?	2012 RTP/SCS EIR/EIS Impact 3.8-7	No	No	No	N/A
g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	2012 RTP/SCS EIR/EIS Impact 3.8-7	No	No	No	N/A
h. Substantial reduction in the amount of water otherwise available for public water supplies?	2012 RTP/SCS EIR/EIS Impact 3.13-2	No	No	No	N/A
i. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches?	2012 RTP/SCS EIR/EIS Impact 3.7-2, 3.8-6	No	No	No	N/A
j. The potential discharge of contaminants to the	2012 RTP/SCS	No	No	No	N/A

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
	groundwater or any alteration of groundwater quality?	EIR/EIS Impact 3.8-7				
k.	Is the project located within 600 feet of a drinking water source?	N/A	No	No	No	N/A

Discussion

As in the 2012 and 2017 RTP/SCS, implementation of the 2020 RTP/SCS would help the Plan Area meet the Lake Tahoe Maximum Daily Load Program (TMDL) Requirements by incorporating water quality improvements in projects. Since roadway runoff from the urban uplands and atmospheric nitrogen deposition from vehicle emissions are major contributors to pollutant loading, the 2020 RTP/SCS has an important role to play in achieving the TMDL. Active transportation projects proposed under the 2020 RTP/SCS, such as the Tahoe Valley Greenbelt, include water quality enhancements such as improving existing drainage systems to spread, treat, infiltrate and retain flows from roadways, commercial areas, and other high priority or urbanized areas. Additionally, several shared use and complete streets projects in 2020 RTP/SCS include source control, conveyance, and treatment facilities for stormwater runoff as well as improvements to address urban stormwater quality and flooding.

New and modified projects in the 2020 RTP/SCS that may impact hydrological resources or water quality by introducing new construction or ground-disturbing activities include, but are not limited to, the North Shore Water Taxi Project, the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails, segments of the Nevada Stateline to Stateline Bikeway, the Pope Beach Bike Path, and the Route 89 Class I and Lake Side Phase 2C bike trails. Other projects include safety improvements and complete streets project improvements such as additions of sidewalks along U.S. Highway 50 from Kingsbury Grade to Lake Parkway as well as rehabilitation of roads, bike, and pedestrian facilities generally within existing urbanized areas and road right of ways. Projects would be subject to local jurisdiction water quality standards and state and federal regulations. The potential for changes in the 2020 RTP/SCS to result in impacts related to water quality and hydrology are discussed below.

All projects under the 2020 RTP/SCS must comply with Chapter 60 of the TRPA Code of Ordinances which includes discharge limits for surface runoff and discharge to groundwater (Table 3.8-3 of the TRPA Code), prohibition of certain types of watercraft, snow removal and disposal requirements and required installation and maintenance of BMPs. In accordance with Chapter 60 and TRPA's BMP Handbook, temporary BMPs are required on construction sites and should be maintained throughout the construction period. Permanent BMPs are required for new and existing development and infrastructure. Infiltration facilities must be designed to accommodate a 20-year one-hour storm, per the BMP Handbook. Drainage conveyances through a parcel must be designed

for at least a 10- year, 24-hour storm. Conveyances through an SEZ must be designed for a minimum 50-year storm.

Floodplain management under Chapter 35 requires that TRPA review development in 100-year floodplains, as defined by the Federal Emergency Management Agency or where TRPA has reason to believe that a flood hazard may exist. The TRPA Code prohibits development, grading or filling of lands within 100-year floodplains with certain exceptions, including specific public outdoor recreation facilities, public health or safety facilities, access to buildable sites across a floodplain, and erosion control projects or water quality control facilities when it can be proven there are no viable alternatives and all potential impacts can be minimized.

Regulations include protection of such resources in project areas in which they are known or suspected. Chapter 67 also provides for consultation with state historical agencies as well as the Washoe Tribe. Additionally, Standard 33.3.7 in Chapter 33 (Grading and Construction, Section 33.3, Grading Standards) addresses discovery of historical resources. Projects would also be subject to local jurisdiction cultural resource protection standards as well as state and federal regulations.

CEQA Environmental Checklist

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The TRPA Governing Board adopted Resolution 82-11 in August of 1982, establishing water quality threshold standards for six indicator categories including (1) Lake Tahoe pelagic (deep) waters, (2) Lake Tahoe littoral (nearshore) waters, (3) tributaries, (4) direct surface runoff and storm water discharge to surface waters, (5) stormwater discharge to groundwater, and (6) other lakes (i.e., lakes in the Tahoe Region other than Lake Tahoe). Resolution 82-11 sets out numerical and management standards for water quality in the Plan Area. The TRPA Code of Ordinances contains a range of requirements intended to help achieve water quality threshold standards, goals, and policies. Chapter 60 of the TRPA Code of Ordinances is the primary chapter directed at water quality and the installation of BMPs. Depending on specific locations of projects, development under the 2020 RTP/SCS could result in short-term and long-term impacts to water quality including the violation of water quality standards or waste discharge requirements, or otherwise degrade surface or groundwater quality.

Short-term adverse impacts to surface or groundwater quality could occur during the construction periods of individual improvement projects because areas of disturbed soils would be highly susceptible to water erosion and downstream sedimentation. This impact is of particular concern where projects are located on previously contaminated sites. Construction activities typically involve vegetation removal, grading, excavation, and temporary stockpiling of soils, all of which could expose soils to wind and water erosion and potentially transport pollutants to surface water bodies, particularly during storm events. In addition, construction activities involve on-site staging of construction equipment and vehicles, as well as construction-related vehicle trips. Fuels and other construction related chemicals could be accidentally spilled, leaked, or could otherwise be discharged into drainages. If pollutants reach drainages, they could ultimately be discharged to Lake Tahoe.

Similar to the 2012 and 2017 RTP/SCS, any new development or redevelopment project would be required to comply with existing TRPA, federal, and state regulations pertaining to the protection of water quality from construction discharges. Temporary construction BMPS that may be required

through existing regulations, such as Chapter 33 of the TPRA Code of Ordinances, would include but not be limited to:

- Temporary erosion control BMPs (e.g., silt fencing, fiber rolls, drain inlet protection) installed and maintained to prevent the transport of earthen materials and other waste from a construction site.
- Tree protection fencing installed around trees that are to remain in place throughout construction.
- Mandatory pre-grading inspections by regulatory agencies at the construction site to ensure proper installation of the temporary construction BMPs prior to the initiation of construction activities.
- Requirements to limit the area and extent of all excavation to avoid unnecessary soil disturbance.
- Requirements to winterize construction sites by October 15 to reduce the water quality impacts associated with winter weather. Winterization typically includes installation of erosion controls, vegetation protection, removal of construction debris, site stabilization, and other measures.
- Dust control measures to prevent transport of materials from a project site into any surface water or drainage course. Dust control measures typically include sweeping, watering, covering of disturbed soils and stockpiles, vehicle washing, and other measures.
- Requirements to remove surplus or waste earthen materials from project sites, as well as requirements to stabilize and protect stockpiled material.
- Stabilization of drainage swales disturbed by construction activities with appropriate soil stabilization measures (e.g., revegetation, rock armoring) to prevent erosion.
- Temporary BMPs to capture and contain pollutants from fueling operations, fuel storage areas, and other areas used for the storage of hydrocarbon-based materials. These may include spill prevention plans and other measures.
- Temporary BMPs to prevent the tracking of earthen materials and other waste materials from project sites to offsite locations, including stabilized points of entry/exit for construction vehicles/equipment, designated vehicle/equipment rinse stations, and sweeping operations.
- Regular inspection and maintenance of temporary BMPs.

Additionally, all construction projects in California with greater than one acre of disturbance are required, by LRWQCB in advance of the construction, to prepare a SWPPP pursuant to the NPDES Phase II Stormwater Program. In Nevada, projects are required to comply with the NDEP Stormwater General Permit which also includes a requirement for the preparation and implementation of a SWPPP. A project-specific SWPPP describes the site, construction activities, proposed erosion and sediment controls, means of waste disposal, maintenance requirements for temporary BMPs, and management controls for potential pollutant sources other than stormwater runoff. Water quality controls outlined in a SWPPP must be consistent with TRPA requirements, the federal antidegradation policy, and maintain designated beneficial uses of Lake Tahoe. Stormwater quality sampling and reporting may also be required on a project-specific basis.

Any proposed project and associated construction, under the 2020 RTP/SCS would be subject to existing laws and regulations requiring erosion and sediment controls, implementation and maintenance of temporary construction BMPs, waste control measures, and management controls for stormwater runoff. Because regulatory protections are in place to minimize erosion and transport of sediment and other pollutants during construction, and appropriate project-specific

measures would be defined to secure necessary permits and approvals, construction related impacts would be minimized. Because of the requirements to comply with all applicable state, federal, local, and TRPA regulations pertaining to protection of surface and groundwater water quality from construction related discharges, this impact would be less than significant.

Certain transportation improvements, such as road widening and expansion, would increase overall impervious surface area throughout the Plan Area. These projects may generate significant adverse impacts to surface or groundwater water quality. Pollutants and chemicals associated with urban activities would run off new roadways and other impervious surfaces flowing into nearby bodies of water during storm events. These pollutants would include but are not limited to heavy metals from auto emissions, oil, grease, debris, and air pollution residues. Such contaminated urban runoff may remain largely untreated, thus resulting in the incremental long-term degradation of water quality.

The 2020 RTP/SCS includes several operations and maintenance improvement policies and projects aimed at improving water quality in the region. The Tahoe Valley Greenbelt includes water quality enhancements such as improving existing drainage systems to spread, treat, infiltrate, and retain flows from roadways, commercial areas, and other high priority or urbanized areas. Additionally, several shared use and complete streets projects included in the 2020 RTP/SCS include source control, conveyance, and treatment facilities for stormwater runoff as well as improvements to address urban stormwater quality and flooding. Similar to the 2012 and 2017 RTP/SCS, any new development or redevelopment project would be required to comply with existing TRPA, federal, and state regulations pertaining to the protection of surface and ground water quality. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur to water quality related to construction beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Similar to the 2012 and 2017 RTP/SCS, development under the 2020 RTP/SCS would introduce new impervious surfaces which could affect groundwater supplies by reducing groundwater recharge potential and thus, impede sustainable groundwater management. However, as described above under CEQA item “a,” projects that disturb at least one acre would comply with the NPDES Construction General Permit by implementing BMPs to maintain or replicate the pre-development hydrologic regime. Implementation of required BMPs would minimize impacts related to groundwater recharge. Refer to CEQA item “e” below, for a discussion of groundwater management in the Plan Area. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Construction activities could expose soils to wind and water erosion and potentially transport pollutants to surface water bodies, particularly during storm events. Additionally, transportation and land use projects proposed under the 2020 RTP/SCS would result in an increase in impervious surfaces in the region, potentially resulting in erosion or siltation on- or off-site. However, as described above under CEQA item "a," projects would comply with erosion control systems and construction BMPs per the NDPES permit. Compliance with these requirements would ensure that stormwater would be captured and retained on-site and would minimize the risks of erosion or siltation on- or off-site. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Similar to the 2012 and 2017 RTP/SCS transportation projects that would require work outside of existing paved rights-of-way, such as shared use and bike paths, could alter existing drainage patterns by introducing new impervious surfaces and redirecting flow. However, as described above under CEQA item "a," projects would comply with erosion control systems and construction BMPs per the NDPES permit. Compliance with these requirements would ensure that stormwater would be captured and retained on-site and would minimize the risks flooding on- or off-site during construction.

Construction of stormwater-control projects would control and treat runoff from both existing highways and roadways and from new or increased impervious surfaces resulting from transportation projects in the 2020 RTP/SCS. The projects would enhance the timing of peak flows (i.e., detain and attenuate the peak flows) and reduce runoff volumes (i.e., by including infiltration features). For infrastructure projects that involve stormwater runoff, regulatory requirements in the Tahoe Region mandate infiltration of 20-year, one-hour storm events and the design and implementation of permanent BMPs and Low Impact Development techniques including pervious pavement, vegetated swales, and detention basins. Installation of drainage features with the transportation projects that meet these requirements would control and detain stormwater, treat sediment loads, and infiltrate a considerable portion of total runoff volume. As a result, new transportation infrastructure improvements and land use projects associated with the 2020 RTP/SCS would be designed in a manner that does not increase runoff or result in on- or off-site flooding. Additionally, as described above under CEQA item "a," transportation and land use projects would comply with stringent LRWQCB requirements for stormwater and erosion control and existing NPDES permits and increases to adverse runoff and erosion impacts would be avoided, where feasible, and otherwise minimized. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would

further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Similar to the 2012 and 2017 RTP/SCS, transportation projects that would require work outside of existing paved rights-of-way, such as shared use and bike paths, could alter existing drainage patterns by introducing new impervious surfaces. However, as described above under CEQA item "a," projects would comply with erosion control systems and construction BMPs per the NDPES permit. Compliance with these requirements would ensure that stormwater would be captured and retained on-site and would minimize the risks excess stormwater in the local stormwater drainage system.

Construction of stormwater-control projects would control and treat runoff from both existing highways and roadways as well as new infrastructure and from new or increased impervious surfaces resulting from new and modified transportation and land use projects in the 2020 RTP/SCS. New transportation infrastructure improvements and land use projects associated with the 2020 RTP/SCS would be designed to retain runoff. This would ensure that stormwater drainage systems' capacities are not exceeded nor would they contribute sources of polluted runoff. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

LESS THAN SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

The 2020 RTP/SCS plans new development, redevelopment, and restoration activities. However, Goal 1, Policy 2 of the Natural Hazards Subelement of the 1987 TRPA Regional Plan prohibits new development, grading, and filling of lands within the 100-year flood plain and in the area of wave run-up. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS does not propose changes to this policy. This policy also requires public utilities, transportation facilities, and other necessary public uses located in the 100-year flood plain and wave run-up areas to be constructed and maintained to prevent damage from flooding and to not cause flooding. This policy would be preserved in the 2020 RTP/SCS. Any projects in the 2020 RTP/SCS would be required to comply with Federal Emergency Management Agency regulations, which mandate that no development is to proceed within the 100-year regulatory floodplain if it could increase the flood elevation by one foot or more and no development is allowed within 100-year floodways. Additionally, both Caltrans and the

Nevada Department of Transportation require that projects complete a hydraulic analysis for projects intercepting a waterway or encroaching upon a floodplain Therefore, with adherence to federal, state and TRPA regulations, new transportation and land use projects under the 2020 RTP/SCS would not result in new flooding issues or allow for the exacerbation of existing flooding issues by impeding or redirecting flows. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Refer to item "c. (iv)" above, for a discussion of flood hazards. Flood hazards such as tsunami and seiche waves are generally associated with seismic activity such as earthquakes. Due to the location of the Plan Area, future projects associated with the 2020 RTP/SCS would not be at risk of inundation due to a tsunami. Modelling of potential earthquakes occurring beneath Lake Tahoe indicate that a fault rupturing seismic event of magnitude 7.0 could trigger a seiche with waves of up to 30 feet high along the shoreline of Lake Tahoe. However, the probability of an earthquake strong enough to cause a seiche in the Plan Area is relatively low: only three to four percent in 50 years (Ichinose et al. 2000). Therefore, effects from a seiche wave are unlikely to occur. Additionally, because of the mountainous terrain in the Plan Area, there is a relatively low density of 100-year flood hazard zones. As discussed above under CEQA item "c. (iv)," any projects constructed under the 2020 RTP/SCS would be required to comply with the multi-layered federal, state, regional and TRPA regulations to protect public safety, property and the environment from proposed construction in the 100-year floodplain.

As described above in Section 9, *Hazards and Hazardous Materials,* and similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS could potentially facilitate the transport of hazardous materials on roadways within the Plan Area but would not directly result in a transportation related hazards. All transport of hazardous materials would be required to comply with existing laws and regulations, such as the federal RCRA and the state Hazardous Waste Control Act and California Vehicle Code. This would ensure the transport of hazardous materials and the release of pollutants would be adequately controlled in the unlikely event of project inundation. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and adhere to relevant regulation controlling pollutants, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The Water Quality Management Plan or the Lake Tahoe Region (208 Plan) was prepared by TRPA in compliance with Section 208 of the federal CWA. The 208 Plan is considered a living document and includes by reference the most recent version of the Best Management Practices Handbook, the Stream Environment Zone Protection and Restoration Program, and the Capital Improvements Program for Erosion and Runoff Control. The 208 Plan identifies pollution sources, control needs, and management practices to improve water quality. The 208 Plan management programs pertain to urban runoff and erosion, airborne nutrients, waste management, natural area management, and water quality issues in Lake Tahoe and the Shorezone. To determine if water quality goals are attained and maintained, water quality programs require continuous scientific monitoring of environmental conditions related to the threshold standards for pelagic Lake Tahoe, littoral Lake Tahoe, tributary streams, surface runoff, groundwater, land coverage, and SEZs.

The Lake Tahoe TMDL was established to meet the requirements of Section 303(d) of the CWA. Implementation of a TMDL plan is required in California pursuant to the California Water Code, Section 13242, which also requires that the LRWQCB incorporate TDMLs into its local Water Quality Control Plan. California and Nevada adopted TMDL requirements for Lake Tahoe in August 2011.

Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS would not propose changes that would conflict with these existing plans. In light of the changes in the approach to managing water quality, the unique arrangement for planning, and the new requirements, the 208 Plan was updated in 2013 to better serve as a living and relevant framework within which the distinct but interrelated programs and efforts at the various government levels work in a coordinated and complementary fashion as the major components of the Plan Area's water quality management system. Each of the major individual components has been approved and may be amended in accordance with the required processes associated with that component. As such any updates to components included by reference would reflect modifications to land use restrictions wetland protection and restoration regulations, or other water quality-related aspects of the goals and policies adopted as part of the 2020 RTP/SCS.

Additionally, TRPA supports implementation of the TMDL regulation through its mitigation fund release policies and by facilitating public/private partnerships in the development of water quality improvements projects identified in the Environmental Improvement Program. Therefore the 2012 RTP/SCS EIR/EIS concluded that implementation of transportation projects would not conflict with or obstruct implementation of the 208 Plan or TMDL in accordance with the Water Quality Control Plan. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 3 – Water Quality

a. Will the proposal result in changes in currents, or the course or direction of water movements?

The 2020 RTP/SCS would involve development of transportation and land use projects. As described under CEQA item "c" above, while there is potential for alteration to drainage patterns, projects would comply with erosion control systems and construction BMPs per the NDPES permit. Compliance with these requirements would ensure that projects would not result in changes to currents, or the course or direction of water movements. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Will the proposal result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 year 1 hour storm runoff (approximately 1 inch per hour) cannot be contained on the site?

Refer to the discussion under CEQA items "a" and "c" regarding drainage patterns and the rate of surface water runoff. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Will the proposal result in alterations to the course or flow of 100-yearflood waters?

Refer to the discussion under CEQA item "c.(iv)" above, for a discussion of alterations of flood flows within a 100-year flood plain. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Will the proposal result in change in the amount of surface water in any water body?

Refer to CEQA item "a" above for a discussion of impacts to surface water. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

e. Will the proposal result in discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?

Refer to CEQA item "a" above for a discussion of surface water quality. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

f. Will the proposal result in alteration of the direction or rate of flow of ground water?

Refer to CEQA items "b" and "e" above, for a discussion of groundwater. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

g. Will the proposal result in change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

Refer to CEQA items "b" and "e" above, for a discussion of groundwater availability. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

h. Will the proposal result in substantial reduction in the amount of water otherwise available for public water supplies?

Water used for transportation projects would be limited to that needed for construction and site-specific improvements such as restrooms at trailheads. These projects are not expected to require an excess amount of water that would substantially reduce the public water supply. Some projects in the 2020 RTP/SCS may include long-term water supply for project elements including toilets, sinks, spigots, and stormwater facilities and maintenance activities. However, Chapter 32.4 of the TRPA Code of Ordinances requires that basic water service requirements for projects proposing a new structure, reconstruction, or expansion of an existing structure, designed for human occupancy must have adequate water rights and water supply systems. The public water supply in the Tahoe Region is drawn primarily from groundwater. Refer to items "b" and "e" above and Section 19, *Utilities and Service Systems*, for a discussion of groundwater supplies for transportation and land use projects proposed under the 2020 RTP/SCS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and adherence to existing TRPA Code regulations, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

i. Will the proposal result in exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches?

Refer to CEQA items "c.(iv)" and "d" above, for a discussion of hazards related to flooding from a 100-year storm or seiche. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

j. Will the proposal result in the potential discharge of contaminants to the groundwater or any alteration of groundwater quality?

Refer to CEQA item "a" for a discussion of potential discharge of contaminants to groundwater or an alteration of groundwater quality. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

k. Will the proposal result in the project located within 600 feet of drinking water sources?

All projects proposed under the 2020 RTP/SCS would be subject to the provisions for Source Water Protection described in of Chapter 60.3, of the TRPA Ordinance Code, which requires a 600-foot protection zone around all known drinking water sources. Specifically, Section 60.3.3(C)(1), requires a fixed protection zone of 600 feet around wells, lake intakes, and springs assessed by TRPA, and Section 60.3.1(D) requires a review of proposed possible contaminating activities located in these source water protection zones. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

11 Land Use and Planning

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
l. Physically divide an established community?	2012 RTP/SCS EIR/EIS Impact 3.2-1	No	No	No	N/A
m. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	2012 RTP/SCS EIR/EIS Impact 3.2-2	No	No	No	Yes
TRPA Environmental Checklist: Section 8 – Land Use					
Will the proposal:					
n. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?	2012 RTP/SCS EIR/EIS Impact 3.2-2	No	No	No	N/A
o. Expand or intensify an existing non-forming use?	2012 RTP/SCS EIR/EIS Impact 3.2-2	No	No	No	N/A

Discussion

For the Plan Area, land use and development patterns established in the late 1960s and codified in the late 1980s continue to inform planning policies and the processes and procedures for development allocations in the current planning climate. TRPA established thresholds in the early 1980s that provide for moderate growth and set allocations for residential, commercial, and tourist-related development.

Goals and policies discussed in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC continue to inform the 2020 RTP/SCS, including improving connectivity between and mobility in the Lake Tahoe Region communities. New projects include active transportation trails and amenities that would supplement the existing trail network, continued complete streets and parking management programs under the Corridor projects, roadway maintenance that includes repaving and snowplowing, and implementation of new safety technologies that will aid in traffic and parking management.

CEQA Environmental Checklist

a. Would the project physically divide an established community?

As with the 2012 and 2017 RTP/SCS, a goal of the 2045 update is to improve mobility and connectivity and to enhance the environmental quality of the area to promote visitor and community experiences and economic vitality. New projects in the 2020 RTP/SCS do not include any new roadways or structures that would divide an established community. Many projects would increase connectivity through implementation of complete streets, new trails, and transit. The 2045 SCS includes a land use plan similar to the 2012 and 2017 plans where most development would occur in community centers, which would improve access to services and reduce automobile dependency. Since projects under the 2020 RTP/SCS would continue the same development patterns and would not divide communities in the Plan Area, impacts would be less than significant. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The 2020 RTP/SCS would continue the same land use planning strategies and patterns as analyzed in 2012 and 2017. Limited allocations and concentrated development patterns would continue in defined community centers, continuing the development pattern and land use compatibility policies analyzed in the 2012 EIR/EIS and verified in the 2017 IS/IEC. The 2017 IS/IEC found that proposed projects would be like those analyzed in the 2012 EIR/EIS and the same is true of those proposed under the 2020 RTP/SCS. Projects included in the 2020 RTP/SCS may conflict with land uses in a Recreation Area in an area plan or a master plan, but mitigation included in the 2012 EIR/EIS would reduce this impact. Mitigation Measure 3.2-2 in the 2012 EIR/EIS requires that any development involving commercial, residential, tourist accommodation uses or subdivision in a Recreation Area within an area plan or master plan only be approved if it results in a development pattern compatible with recreation district uses, does not induce substantial growth in the area, and does not conflict with environmental policies or regulations analyzed in the area or master plans (TRPA 2012). Overall, substantial and adverse impacts to consistency with land use plans would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

TRPA Environmental Checklist

Section 8 – Land Use

a. Will the proposal include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?

The 2017 RTP/SCS IS/IEC found that proposed projects would be similar to those analyzed in the 2012 EIR/EIS and the same is true of those proposed under the 2020 RTP/SCS. These include limited development of recreational uses, connectivity projects, roadway and parking facilities maintenance and operation, and implementation of new technologies that aid in traffic safety and parking management. Prior to permitting transportation projects that involve land use changes, local jurisdictions will have the opportunity for discretionary review of site specific design and mitigation to ensure no conflict occurs with other planning documents. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Will the proposal expand or intensify an existing non-conforming use?

The 2017 IS/IEC found that proposed projects would be like those analyzed in the 2012 EIR/EIS and the same is true of those proposed under the 2020 RTP/SCS. These include limited development of recreational uses, connectivity projects, roadway and parking maintenance and operation, and implementation of new technologies that aid in traffic safety and parking management. Non-conforming uses are not proposed under the 2020 RTP/SCS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

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12 Mineral Resources

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
p. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	2012 RTP/SCS EIR/EIS Section 5.1.3	No	No	No	N/A
q. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	2012 RTP/SCS EIR/EIS Section 5.1.3	No	No	No	N/A
TRPA Environmental Checklist: Section 9 – Natural Resources					
Will the proposal result in:					
r. A substantial increase in the rate of use of any natural resources?	2012 RTP/SCS EIR/EIS Impacts 3.10-2, 3.13-2	No	No	No	N/A
s. Substantial depletion of any non-renewable natural resource?	2012 RTP/SCS EIR/EIS Impacts 3.10-2, 3.13-2	No	No	No	N/A

Discussion

The 2012 EIR/EIS includes impacts to mineral resources in Section 5.1.3, *Effects Found Not to be Significant* as there are no identified mineral resource recovery sites in the Plan Area. Projects under the 2020 RTP/SCS, like those in the 2017 RTP/SCS, would result in more efficient use of natural resources through transportation network enhancements and infrastructure improvements.

CEQA Environmental Checklist

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

There are no mineral resource recovery sites in the Plan Area (TRPA 2012). Therefore, projects listed in the 2020 RTP/SCS would not result in the loss of availability of a known mineral resource. There would be no impact. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO IMPACT

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

There are no mineral resource recovery sites in the Plan Area (TRPA 2012). Therefore, projects listed in the 2020 RTP/SCS would not result in the loss of availability of a locally important mineral resource recovery site. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO IMPACT

TRPA Environmental Checklist

Section 9 – Natural Resources

a. Will the proposal result in a substantial increase in the rate of use of any natural resources?

b. Will the proposal result insubstantial depletion of any non-renewable natural resource?

Proposed projects included in the 2020 RTP/SCS are similar in nature, scale, and location, to those analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. They would include active transportation projects, implementation of complete streets and parking facility improvements, and operations and maintenance projects that improve mobility throughout the Plan Area. A discussion of energy and resource use for proposed projects is provided in Section 6, *Energy*. As with the 2012 EIR/EIS and the 2017 IS/IEC, specific project implementation would not result in increased rate of use or substantial depletion of non-renewable natural resources. The proposed projects would not result in a substantial increase in the rate of use of any natural resources. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NOI

13 Noise

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist Would the project result in:					
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	2012 RTP/SCS EIR/EIS Impacts 3.6-1, 3.6-3, and 3.6-4	No	No	No	Yes
b. Generation of excessive groundborne vibration or groundborne noise levels?	2012 RTP/SCS EIR/EIS Impact 3.6-2	No	No	No	Yes
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	2012 RTP/SCS EIR/EIS Page 3.6-10	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
TRPA Environmental Checklist: Section 6 – Noise					
Will the proposal result in:					
a. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?	2012 RTP/SCS EIR/EIS Impacts 3.6-1, 3.6-2, and 3.6-4	No	No	No	Yes
b. Exposure of people to severe noise levels?	2012 RTP/SCS EIR/EIS Impacts 3.6-1, 3.6-3, and 3.6-4	No	No	No	Yes
c. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?	2012 RTP/SCS EIR/EIS Page 3.6-10	No	No	No	N/A
d. The placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible?	N/A	No	No	No	N/A
e. The placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses?	2012 RTP/SCS EIR/EIS Impact 3.6-4	No	No	No	Yes
f. Exposure of existing structures to levels of ground vibration that could result in structural damage?	2012 RTP/SCS EIR/EIS Impact 3.6-2	No	No	No	Yes

Discussion

Since adoption of the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC there have been no changes to noise regulations relevant to the 2020 RTP/SCS at the federal, state, and county or city levels. TRPA noise thresholds and policies from 2017 remain applicable to the 2020 RTP/SCS and are briefly described below.

Lake Tahoe Regional Plan

The elements of the TRPA Regional Plan related to noise include the following: Noise Subelement of the Goals and Policies of the Regional Plan (TRPA 2012); the TRPA Code of Ordinances, Chapter 68, "Noise Limitations"; and plan area statements, community plans, and area plans (TRPA 2016). These elements are described below, followed by a summary of TRPA's best construction practices policy for construction-generated noise and vibration, TRPA's Region-wide traffic noise mitigation program, and exterior noise policy for mixed-use development.

Goals and Policies

The Regional Plan Noise Subelement of the Goals and Policies includes a goal to attain and maintain community noise equivalent level (CNEL) standards that is relevant to the 2020 RTP/SCS (Goal N-2). The underlying policy intended to help achieve that goal includes establishing specific site design criteria for projects to reduce noise from transportation corridors and which may include using earthen berms, and barriers (Policy N- 2.1). The transportation corridor CNEL values override land use-based CNELs within 300 feet of the applicable roadway.

Code of Ordinances

Chapter 68, "Noise Limitations," of the TRPA Code is intended to implement the Noise Subelement of the Goals and Policies document and to attain and maintain TRPA's noise-related Environmental Threshold Carrying Capacities (shown below).

TRPA Code Section 68.4, "Community Noise Levels," states that TRPA shall use CNELs to measure community noise levels and that individual plan area statements shall set forth CNELs that shall not be exceeded by any one activity or combination of activities. The CNELs set forth in the plan area statements are based on the land use classification, the presence of transportation corridors, and the applicable threshold standard. Plan area statements essentially provide plan CNELs and other planning standards specific to a local area within the Tahoe Region. Because this is a plan-level evaluation, the CNELs established by individual plan area statements are not presented or applied in this analysis.

Best Construction Practices Policy for the Minimization of Exposure to Construction-Generated Noise and Ground Vibration

TRPA requires the following standard conditions, among others, for all project construction activity that involves grading; these conditions also apply to the construction of residential projects.

- Any normal construction activities creating noise in excess of the TRPA noise standards shall be considered exempt from said standards provided all such work is conducted between the hours of 8:00 a.m. and 6:30 p.m.
- Engine doors shall remain closed during periods of operation except during necessary engine maintenance.

- Stationary equipment (e.g., generators or pumps) shall be located as far as feasible from noise-sensitive receivers and residential areas. Stationary equipment near sensitive noise receivers or residential areas shall be equipped with temporary sound barriers.

Region-Wide Traffic Noise Mitigation Program

TRPA developed a Region-wide traffic noise mitigation program pursuant to the requirements of Mitigation Measure 3.6-1 in the Regional Plan Update (RPU) EIS and Mitigation Measure 3.6-4 in the 2012 RTP/SCS EIR/EIS. The Region-wide traffic noise mitigation program aims to attain and maintain TRPA's contour-based CNEL thresholds in the highway transportation corridors in the Plan Area. The attainment status of these transportation corridor noise thresholds is evaluated every four years in the noise chapter of TRPA's Threshold Evaluation. The 2015 Threshold Evaluation Report is the most recent version of this report published by TRPA (TRPA 2016). TRPA will only approve individual projects that can demonstrate compliance with TRPA's CNEL thresholds.

Exterior Noise Policy for Mixed-Use Development

TRPA developed new project review requirements for mixed-use development pursuant to the requirements of Mitigation Measure 3.6-4 in the 2012 RTP/SCS EIR/EIS. These requirements were developed to address the fact that new residential units and tourist accommodation units (TAUs) with outdoor activity areas that are included as part of redevelopment in town centers (as well as in the Regional Center, the High-Density Tourist District) could be in areas that are exposed to high exterior noise levels. TRPA requires that each project be evaluated to determine whether it would result in the placement of residential or tourist accommodation uses in areas where the existing noise level exceeds 60 CNEL or is otherwise incompatible. TRPA also requires that each project be assessed to determine whether it would result in the generation of incompatible noise levels close to existing residential or tourist accommodation uses. The 60 CNEL level is not a threshold standard and does not supersede any applicable TRPA land use-based or contour-based noise threshold standards. Rather, the 60 CNEL standard serves as a screening criteria to determine whether a project-specific noise analysis is needed, in which case a project-specific noise analysis would be required to examine whether a proposed project would result in incompatible noise levels or the exceedance of any TRPA noise threshold standards. If a proposed project would result in incompatible noise levels, feasible mitigation measures would be required prior to approval.

Environmental Threshold Carrying Capacities

TRPA has established environmental thresholds for nine resources, including noise. There are two noise threshold indicators, single noise events and cumulative noise events, which are summarized below and serve as the basis for this environmental analysis.

Single Noise Events

Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. Single Noise Event Threshold Standards adopted by TRPA are based on the numerical value associated with the maximum measured level in acoustical energy during an event. This threshold establishes maximum noise levels for aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and snowmobiles.

Cumulative Noise Events

TRPA adopted CNEL standards for different zones within the Region to account for expected levels of serenity, as shown in Table 12 of the 2017 RTP/SCS IS/IEC. The standards, established in the Goals and Policies, apply to the entire Lake Tahoe region. The noise limitations established in Chapter 68 of the TRPA Code do not apply to noise from TRPA-approved construction or maintenance projects, or the demolition of structures, provided that such activities are limited to the hours between 8:00 a.m. and 6:30 p.m. Further, the noise limitations of Chapter 68 shall not apply to emergency work to protect life or property.

TRPA's transportation corridor noise standards for U.S. Highway 50 and Routes 431, 28, 89, 207, and 267 are most relevant to the 2020 RTP/SCS. As indicated in Note 4 of Table 12, TRPA's transportation corridor noise thresholds for U.S. Highway 50 and Routes 431, 28, 89, 207, and 267 override TRPA's land use-based CNEL thresholds at all locations within 300 feet from the edge of the roadway.

TRPA's land use-based noise thresholds indicate maximum levels of noise exposure for specific types of land uses (e.g., High Density Residential, Low Density Residential, Hotel/Motel Facilities). TRPA's transportation corridor noise standards, including its threshold for the transportation corridors, are referred to as contour-based noise thresholds. TRPA's transportation corridor noise standards indicate how loud traffic noise can be at a distance of 300 feet from the edge of the highway. For instance, the transportation corridor noise threshold for U.S. Highway 50 specifies that the 65 CNEL noise contour generated by traffic on U.S. Highway 50 shall not extend more than 300 feet from the highway's edge. Note that if the 65 CNEL of a segment of U.S. Highway 50 extends to 300 feet from the highway edge, the traffic noise levels will be greater than 65 CNEL at locations closer to the highway (e.g., approximately 68-69.5 CNEL 150 feet from the highway and approximately 71-72 CNEL 75 feet from the highway, applying the standard attenuation rate for roadway noise) and this condition is considered to be in attainment of the noise threshold established for the U.S. Highway 50 transportation corridor. Thus, the land use-based noise thresholds and contour-based transportation corridor noise thresholds established by TRPA are fundamentally different metrics. This represents a change in the methodology to analyze effects from the noise impact analysis for the 2012 RTP/SCS EIR/EIS but is consistent with methodology used in the 2017 RTP/SCS IS/IEC.

Environmental Setting

Noise-Sensitive Land Uses

Noise-sensitive land uses generally include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern due to the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Parks, schools, historic sites, cemeteries, and recreation areas are also generally considered sensitive to increases in exterior noise levels. Places of worship and other similar places where low interior noise levels are of great importance are also considered noise sensitive. Noise sensitive land uses are also considered to be vibration sensitive. Specifically, commercial and industrial buildings where ground vibration (including vibration levels that may be well below those associated with human annoyance) could interfere with operations within the building would be most sensitive to ground vibration.

Noise Sources and Ambient Noise Levels

The predominant source of noise in areas that would be directly affected by implementation of the 2020 RTP/SCS is vehicle traffic traveling on the highways in the Plan Area, including U.S. Highway 50 and routes 431, 28, 89, 207, and 267. Other noise sources include motorized watercraft activity on the lake, landscape maintenance and snow removal activities (e.g., grass cutting, leaf blowing, snow plowing and blowing) at residential and commercial land uses, and activities typical of urban and suburban environments, such as people recreating outside.

CEQA Environmental Checklist

a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Temporary Construction Noise

Similar to the 2012 and 2017 RTP/SCS, the operation of equipment during the construction of roadway infrastructure, as well as new development projects under the 2020 RTP/SCS, would result in temporary increases in noise in the immediate vicinity of individual construction sites. As shown in Table 12 average noise levels associated with the use of heavy equipment at construction sites can range from about 76 to 101 A-weighted decibels (dBA) at 50 feet from the source, depending upon the types of equipment in operation at any given time and the phase of construction. The highest noise levels generally occur during excavation and foundation development, which involve the use of such equipment as backhoes, bulldozers, shovels, and front-end loaders.

Table 12 Typical Noise Levels for Construction Equipment

	Estimated Noise Levels at Nearest Sensitive Receivers (dBA L_{eq})		
Equipment	**25 feet**	**50 feet**	**100 feet**
Air Compressor	86	80	74
Backhoe	86	80	74
Concrete Mixer	91	85	79
Dozer	91	85	79
Grader	91	85	79
Jack Hammer	94	88	82
Loader	86	80	74
Paver	91	85	79
Pile-drive (Impact)	107	101	95
Pile-driver (Sonic)	101	95	89
Roller	91	85	79
Saw	82	76	70

Equipment	Estimated Noise Levels at Nearest Sensitive Receivers (dBA L_{eq})		
	25 feet	50 feet	100 feet
Scarified	89	83	77
Scraper	91	85	79
Truck	90	84	78

Source: Federal Transit Administration 2018

Noise generated by construction activity would vary depending on the project and intensity of equipment use. Roadway widening projects would likely require the operation of many pieces of heavy-duty equipment that generate high noise levels. Alternatively, repainting/restriping would typically be less intense requiring minimal, if any, use of heavy equipment. This conservative analysis assesses construction noise based on the operation of heavy-duty equipment. Noise levels from point sources such as construction sites typically attenuate at a rate of about 6 dBA per doubling of distance. Nearby residences and other noise-sensitive receivers could be exposed to noise levels that may exceed applicable TRPA standards outside of the exempt hours between 8:00 a.m. and 6:30 p.m. Additionally, construction may expose nearby noise-sensitive receivers to excessive noise levels without implementation of all feasible noise control measures. However, substantial and adverse impacts to sensitive receivers due to short-term construction noise would remain less than significant with implementation of Mitigation Measure 3.6-1 from the 2012 RTP/SCS EIR/EIS requiring implementation of the Best Construction Practices Policy for construction generated noise. Overall, substantial and adverse impacts from construction noise would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS. No new significant impacts or substantially more severe impacts would occur.

Transit-Related Noise

Long-term, operational noise levels may be associated with expanded transit services, new waterborne transit infrastructure and service, and new park-and-ride lots to support vanpools and inter-regional transit shuttles. The 2020 RTP/SCS would include several new transit and active transportation projects including the Resort Triangle Transportation Plan to include shuttle improvements in the Plan Area, new terminal facilities for various bus routes, and TART Local Service Enhancements and Expanded Services. Waterborne transit service would also be implemented under the 2020 RTP/SCS. All transit-related watercraft would be required to comply with TRPA noise threshold standards for single events. Additionally, noise associated with ferry terminal operations and related parking facilities would not be unusual in the urban areas where terminals would be located. Thus, operation of a waterborne transit system would not result in new types of noise sources in the Plan Area or expose noise-sensitive receptors to excessive noise levels. Increases in transit services or services along new routes may expose sensitive receivers to bus noise. However, all new buses and waterborne transit would use clean technology, which would result in quieter vehicles. The Federal Transit Administration has developed a screening procedure to identify locations where a bus project may cause a significant noise impact. The screening distances for requiring noise assessments for various types of projects are presented in Table 13.

Table 13 Screening Distances for Noise Assessments – Bus Transit Projects

Type of Project		Screening Distance (Feet)	
		Unobstructed	Intervening Buildings
Busway		500	250
BRT on Exclusive Roadway		200	100
Bus Facilities	Access Roads	100	50
	Transit Center	225	150
	Storage and Maintenance	350	225
	Park and Ride Lots with Buses	225	150

Source: Federal Transit Administration 2018

Increased frequency of bus service along existing corridors could also increase noise exposure if diesel buses are used. However, the addition of local buses and shuttles is unlikely to increase noise by significant levels as bus routes would occur mostly in urban areas with high ambient noise levels, and fleets are being turned over to electric and hydrogen fuel which are much quieter. Additionally, transit projects contained in the 2020 RTP/SCS would not substantially differ from those included in the 2012 or 2017 RTP/SCS regarding geographic location, type, or size. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Bike-, and Pedestrian-Related Noise

Long-term, operational noise levels may be associated with new bike trails and pedestrian improvements. The 2020 RTP/SCS would include several new trail and bike path projects as well as complete streets projects to improve bike lanes, pedestrian crossings and traffic flow in urbanized areas. Projects within existing urbanized areas would include the Fanny Bridge Complete Streets Phase 2, segments of the Nevada Stateline to Stateline Bikeway, the Route 89 Class I Bike Trail and components of the NDOT Complete Streets Project, among others. Bike and pedestrian-related uses would not generate a significant amount of noise, as conversational noise is not excessive and is generally characteristic of the existing noise environment in urban areas and along roadways.

New or expanded bike and pedestrian projects included in the 2020 RTP/SCS would also occur in less urbanized and developed areas and include the Tahoe City Lakeside Trail Missing Link, Dollar Creek and South Tahoe Greenway shared use trails, Lake Side Phase 2C bike trails, and Pope Beach Bike Path. These new bike and pedestrian infrastructure projects would encourage additional pedestrians and cyclists to use areas that were previously undeveloped and where existing noise levels are lower than in urban settings. As described above, these uses would not generate a significant amount of noise, as conversational noise is typically measured at a range of 60 to 65 dBA at a distance of 5 feet (Federal Transit Administration 2018). Noise levels typically attenuate at a rate of about 6 dBA per doubling of distance and conversational noise would range from approximately 28 dBA to 33 dBA at 100 feet. Similar to the 2012 and 2017 RTP/SCS, these new bike and pedestrian uses would not be located within 100 feet of noise-sensitive receivers. Noise attenuation from existing structures and topography would further ensure that conversational noise is reduced to a level that would be imperceptible to nearby receivers. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017

RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Long-Term Traffic Noise Levels Along Existing and Realigned Roadways

The 2012 RTP/SCS EIR/EIS evaluated long-term traffic noise levels along existing and realigned roadways. Increased vehicle trips on highways under the 2012 RTP/SCS would result in nominal increases in traffic noise levels (i.e., less than 3 dB). However, increases in traffic noise levels would occur in highway corridors (i.e., within 300 feet of the highway edge) not in attainment with respect to the CNEL standards established by TRPA for highway corridors. In addition, traffic noise levels beyond the highway corridor (i.e., at distances greater than 300 feet from the highway edge) may also exceed CNEL standards established by TRPA for particular land use types, including the 55 dBA CNEL standard for high-density residential land uses, the 50 dBA CNEL standard for low-density residential land uses, the 55 dBA CNEL standard for urban outdoor recreation uses, and the 50 dBA CNEL standard for rural outdoor recreation areas. Moreover, traffic noise levels in 2012 and 2017 were determined to exceed noise standards established by the city or county general plan at land uses located near the highways. Similarly, the 2020 RTP/SCS includes projects involving roadway alignment, such as the NDOT Complete Streets Project and the U.S. Highway 50 Safety Improvements. Pursuant to Mitigation Measures 3.6-4 and 3.6-5 of the 2012 RTP/SCS EIR/EIS, projects under the 2020 RTP/SCS would be required to use barriers and acoustical shielding, reduce gaps in existing barriers and berms, utilize noise reduction pavement, plant dense vegetation where noise absorption is needed, and other similar measures.

Similar to the 2012 and 2017 RTP/SCS, overall traffic levels on highways and roadways in the Plan Area are projected to increase as a result of incremental regional growth through the year 2045 (refer to Section 17, *Transportation*). The 2020 RTP/SCS includes projects that are designed to support the proposed increase in traffic, which would result in additional traffic noise compared to baseline (2018) conditions along and in the vicinity of affected facilities. Such projects include construction of roadway realignments and improvements to roads that would allow increased traffic volumes. In addition, the anticipated number of daily VMT would increase from 1,393,994 daily under existing modelled conditions (2018) to 1,410,202 daily in 2045 with the 2020 RTP/SCS, an increase of approximately 16,208 VMT daily, or approximately 1.2 percent. Although many areas along highway and roadway corridors are at least partially shielded from traffic noise by topography, buildings, walls and other barriers, an increase in VMT and new and extended roadways would result in incrementally higher traffic noise levels as compared to existing conditions. However, the traffic improvement projects contained in the 2020 RTP/SCS would not substantially differ from those included in the 2012 or 2017 RTP/SCS regarding geographic location, type, or size. Additionally, some projects under the 2020 RTP/SCS would include traffic calming components, such as roundabouts, and would therefore slow vehicles and reduce traffic noise levels. Mitigation Measures 3.6-4, and 3.6-5, described above, would continue to apply to applicable transportation improvement projects included in the 2020 RTP/SCS and would further reduce traffic related noise impacts to a less than significant level.

Overall, substantial and adverse noise impacts would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local

jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

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b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Similar to the 2012 and 2017 RTP/SCS implementation of new and modified projects in the 2020 RTP/SCS would include construction activities that could expose nearby buildings, structures, and people to excessive levels of ground vibration mainly from the potential for impact pile driving and blasting. Table 14 shows vibration levels associated with typical construction equipment. Similar to construction noise, vibration levels would be variable depending on the type of construction project and related equipment use.

Table 14 Vibration Source Levels for Construction Equipment

		Approximate Vibration Level (VdB)			
Equipment		25 feet from Source	50 feet from Source	100 feet from Source	200 feet from Source
Caisson Drilling		87	78	69	60
Jackhammer		79	70	61	52
Large Bulldozer		87	78	69	60
Loaded Truck		86	77	68	58
Pile Driver (impact)	Upper range	112	103	94	84
	Typical	104	95	86	77
Pile Driver (sonic)	Upper range	105	96	87	78
	Typical	93	84	75	65
Small Bulldozer		58	48	39	30
Vibratory Roller		94	85	76	67

Source: Federal Transit Administration 2018

Pile driving has the potential to generate the highest vibration levels and is the primary concern for structural damage when it occurs within 50 feet of structures. Vibration levels generated by pile driving activities would vary depending on project conditions, such as soil conditions, construction methods and equipment used. Depending on the proximity of existing structures to each construction site, the structural soundness of the affected buildings and construction methods, vibration caused by pile driving or other foundation work with a substantial impact component such as blasting, rock or caisson drilling, and site excavation or compaction may be high enough to be perceptible within 100 feet and damage existing structures within 50 feet. Impacts related to vibration from construction activities would be potentially significant. However, substantial and adverse impacts related to groundborne vibration due to construction activities would remain less than significant with implementation of Mitigation Measure 3.6-2 from the 2012 RTP/SCS EIR/EIS, which requires TRPA implementation of construction BMPS and measures to reduce vibration levels from pile driving, such as locating equipment away from vibration sensitive sites and limiting exposure from vibration to specific vibration levels.

Overall, substantial and adverse vibration impacts would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Under the heading, "Sources and Ambient Levels" on page 3.6-10, the 2012 RTP/SCS EIR/EIS briefly explains that the 2012 RTP/SCS would not result in changes to operations of the Lake Tahoe Airport or any other airport or private airstrip in the Plan Area. Therefore, no changes to the noise environment from aircraft activity in the Plan Area were anticipated from implementation of the 2012 RTP/SCS because it would not result in increased takeoffs and landings or a change to the mix of aircraft types that use the airport. This would also be the case with the 2020 RTP/SCS. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 6 – Noise

a. Will the proposal result in increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?

Please refer to CEQA item "a" above, for a discussion of transportation noise increases beyond those permitted in applicable plans. New and modified projects under the 2020 RTP/SCS would be required to implement Mitigation Measures Mitigation Measures 3.6-4 and 3.6-5 of the 2012 RTP/SCS EIR/EIS to ensure consistency with applicable plans. Overall, substantial and adverse impacts to noise levels would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

b. Will the proposal result in exposure of people to severe noise levels?

Refer to discussion of long-term traffic noise increases and short-term construction noise under CEQA item "a." New and modified projects under the 2020 RTP/SCS would be required to implement Mitigation Measures Mitigation Measures 3.6-4 and 3.6-5 of the 2012 RTP/SCS EIR/EIS to ensure exposure to severe noise levels would be reduced to a less than significant level. Overall, substantial and adverse impacts regarding severe noise levels would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

c. Will the proposal result in single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

The 2020 RTP/SCS would not result in changes to goals, policies, or implementation measures pertaining to single-event noise, and no features of the 2020 RTP/SCS would be expected to affect the frequency or intensity of single-event noise incidences. Similarly, no changes to levels of activity by recreational watercraft, motorcycles, off-road vehicles, and over-snow vehicles were anticipated under the 2020 RTP/SCS because it would not result in additional recreational boating facilities, trails, or recreation areas for these types of vehicles. TRPA single-event noise standards would continue to apply to all of these noise sources.

Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC

NO

d. Will the proposal result in the placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible?

Pursuant to the Exterior Noise Policy for Mixed-Use Development as required by Mitigation Measure 3.6-4 in the RPU EIS, TRPA requires projects be evaluated to determine whether they would result in the placement of residential or tourist accommodation uses in areas where the existing noise level exceeds 60 dBA or is otherwise incompatible. This checklist question was added to TRPA's Environmental Checklist after the 2012 RTP/SCS EIR/EIS was certified. However, the 2017 RTP/SCS IS/IEC determined that the 2017 RTP/SCS would not result in the development of these uses in areas where noise levels exceed the 60 CNEL threshold or would be otherwise incompatible. As the 2020 RTP/SCS would promote a similar land use strategy as contained in the 2017 RTP/SCS, implementation of the 2020 RTP/SCS would not result in the development of residential or tourist accommodation uses in the areas where the existing noise level exceeds 60 CNEL or is otherwise incompatible. The 2020 RTP/SCS would ensure that residential and tourist accommodation land uses, such as the Caltrans worker housing project, would be placed in compatible zones. Because the projects included in the 2020 RTP/SCS would undergo site specific review pursuant to the Exterior Noise Policy for Mixed-Use Development and incorporate feasible mitigation to reduce

incompatible noise levels prior to approval, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2017 RTP/SCS IS/IEC.

NO

e. Will the proposal result in the placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses?

As described above under CEQA item "a," the 2020 RTP/SCS would not result in incompatible noise levels close to existing residential or tourist accommodation uses. Impacts from transit, active transportation, and traffic noise would not exceed levels analyzed in the 2017 RTP/SCS and mitigation from the 2012 RTP/SCS would reduce traffic noise, as feasible, at existing residential and tourist accommodation land uses. Overall, substantial and adverse impacts regarding severe noise levels would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

g. Will the proposal result in exposure of existing structures to levels of ground vibration that could result in structural damage?

Please refer to the discussion of potential ground vibration impacts in CEQA item "b." Potential vibration impacts would be reduced through adherence to Mitigation Measure 3.6-2 to reduce vibration impacts. Overall, substantial and adverse impacts from ground vibration would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

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14 Population and Housing

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	2012 EIR/EIS Impact 3.12-1	No	No	No	N/A
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	2012 EIR/EIS Impact 3.12-2	No	No	No	N/A
TRPA Environmental Checklist: Section 11 – Population					
Will the proposal:					
a. Alter the location, distribution, density, or growth rate of the human population planned for the Region?	2012 EIR/EIS Impact 3.12-1	No	No	No	N/A
b. Include or result in the temporary or permanent displacement of residents?	2012 EIR/EIS Impact 3.12-2	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
TRPA Environmental Checklist: Section 12 – Housing					
Will the proposal:					
a. Affect existing housing, or create a demand for additional housing? To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions: (1) Will the proposal decrease the amount of housing in the Tahoe Region?, (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households?	2012 EIR/EIS Impact 3.12-1	No	No	No	N/A
b. Will the proposal result in the loss of housing for lower-income and very-low-income households?	2012 EIR/EIS Impact 3.12-1	No	No	No	N/A

Discussion

The 2012 RTP/SCS EIR/EIS anticipated a fairly large regional population growth, commensurate with the growth rates throughout California. The 2017 IS/IEC used the same growth assumptions as the 2012 analysis. Actual population growth to the 2020 planning horizon for the 2012 RTP/SCS decreased approximately 26 percent compared to the 2010 population counts (US Census Bureau, American Communities Survey 2019). Since 2019, the regional population has been increasing slightly (3.7 percent on the California side and 4.1 percent on the Nevada side [US Census Bureau 2020). This trend is anticipated to continue as included in the 2020 RTP Regional Forecast, which predicts that increased job opportunities and remote working conditions will support full-time residency in the Plan Area. Specifically, the 2020 RTP Regional Forecast projects an increase in Lake Tahoe's full-time residential population by approximately 12.4 percent, from 2018 to 2045 (TRPA

2020g). This would add approximately 6,417 new residents between 2018 and 2045, with the construction of an additional 4,597 housing units. This minor increase would still be in line with the population increases anticipated in the 2012 and 2017 analyses.

The land use scenario would remain the same under the 2020 RTP/SCS as that analyzed in the 2012 RTP/SCS and discussed in the 2017 IS/IEC, with similar effects on population and housing. The 2020 RTP/SCS would implement transportation and community improvement projects, such as complete streets and parking management, that could draw visitors and residents; however, these projects would not contribute substantially to permanent population increases or visitation.

Nonetheless, projects under the 2020 RTP/SCS are not growth-inducing projects in and of themselves and population increases resulting from these projects would not be substantial. Instead the 2020 RTP/SCS is designed to support anticipated population growth. Furthermore, the 2012 EIR/EIS anticipated highway realignment projects that could displace businesses and residences, similar to the 2017 IS/IEC analysis. The 2020 RTP/SCS does not propose this type of project and no housing displacement would occur under the 2020 RTP/SCS.

It should be noted that the research and majority of the forecasts for the 2020 RTP/SCS were developed prior to the impact of COVID-19. Both states issued stay-at-home orders and the casinos, ski resorts and many other businesses closed in March 2020, furloughing or laying off thousands of employees. The long-term impacts of COVID-19 on the region are uncertain. Given this uncertainty, TRPA staff has maintained the assumptions included in Appendix D for the forecast scenarios even in light of the COVID -19 pandemic and associated economic downturn.

CEQA Environmental Checklist

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The 2012 RTP/SCS EIR/EIS planned for increased population through the 2020 and 2035 planning horizons that was not met by actual growth rates. Instead population in the Plan Area declined between 2010 and 2020. Therefore, population growth that would occur during the 2045 planning horizon would be commensurate with that anticipated in the earlier analyses. The 2012 RTP/SCS EIR/EIS projected a population increase to 60,365 residents for the 2035 planning horizon year, and the 2017 IS/IEC assumed the same level of growth as the 2012 analysis.

New and modified projects under the 2020 RTP/SCS include active transportation, complete streets, and community connection programs and are not population-increasing in themselves. Instead the 2020 RTP/SCS is intended to accommodate growth projected in the Plan Area, which is projected to be 6,417 people or 12.4 percent over existing conditions. Therefore, because the 2020 RTP/SCS would support anticipated growth in the Plan Area and population projections would be consistent with what was estimated in 2012 and 2017 the 2020 RTP/SCS would not induce substantial population growth. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

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b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Similar to the 2017 RTP/SCS, new and modified transportation and land use projects included in the 2020 RTP/SCS are not anticipated to cause the displacement of existing housing or people, as new and modified projects that involve the construction of new facilities, such as the new terminal facility in Meyers, or new trails and pathways, such as the South Tahoe Greenway Shared Use Trail, would not require the demolition of existing residences or housing facilities. During construction of individual projects, residents may be temporarily affected (refer to Section 3, *Air Quality*; Section 8, *Greenhouse Gas Emissions/Climate Change*; Section 17, *Transportation/Circulation*), but would not be displaced.

In the long-run, the 2020 RTP/SCS would support the anticipated increase in housing units by providing improved roadway connections; and improved pedestrian, bicycle, and transit facilities. Anticipated increase in housing under the SCS would not result in temporary or permanent displacement of residents and would instead accommodate the slight increase in full-time residents projected for the Plan Area through the 2045 planning year. Because the 2020 RTP/SCS would not require the demolition of existing housing units, it would not displace substantial numbers of existing housing or people and would not necessitate the construction of replacement housing. Additionally, projects, such as the Caltrans Tahoe City Maintenance Station Project, would provide new housing opportunities.

Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those proposed under the 2012 and 2017 RTP/SCS, and would incorporate site-specific design and mitigation, no new significant impacts or substantially more severe impacts to housing availability would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 11 – Population

a. Will the proposal alter the location, distribution, density, or growth rate of the human population planned for the Region?

As described under CEQA item “a” above, population growth forecast under the 2020 RTP/SCS land use scenario was accounted for in the 2012 RTP/SCS and affirmed in the 2017 IS/IEC. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development under the 2020 RTP/SCS is anticipated to increase through 2045, in keeping with State-mandated housing requirements (Appendix D). Specific plans for development under the 2020 RTP/SCS would not alter the location, distribution, density, or growth rate of the population in the Plan Area beyond that estimated during previous planning processes and would, therefore, not lead to an unplanned increase in population above what has already been analyzed. Neither is the 2020 RTP/SCS population-increasing in and of itself as proposed projects support transportation, recreation, and sustainable communities initiatives, and are intended to provide supportive infrastructure and services for planned population and visitation changes. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation,

no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Will the proposal include or result in the temporary or permanent displacement of residents?

As described under CEQA item "b" above, the forecasting for the 2020 RTP/SCS anticipates there would be an increase of up to 4,597 new residential units. These new units are expected to be used for local resident housing, second homes, and vacation rentals in similar proportions as existing conditions, with a slight increase in the proportion of local resident housing. Therefore, this increase in units would not result in temporary or permanent displacement of residents and would instead accommodate the slight increase in full-time residents projected for the Plan Area through the 2045 planning year. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

Section 12 – Housing

a. Will the proposal affect existing housing, or create a demand for additional housing?

To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions:

(1) Will the proposal decrease the amount of housing in the Tahoe Region?

(2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households?

Impacts from housing displacement are discussed under CEQA item "b." As mentioned in the Discussion section above, anticipated growth in the region would include 4,597 new housing units, and the 2020 RTP/SCS would accommodate growth in conformance with local general plans, State-mandated housing, and Regional Forecast population growth estimates. According to the 2020 Regional Forecast Report, the provision of low-income residential units is projected to increase by 13.6 percent through 2045, in response to planned efforts to counteract the recent upward trend in housing prices in the region and to meet required State-housing mandates (Appendix D). The 2020 RTP/SCS would support the anticipated increase in housing units by providing improved roadway connections; and improved pedestrian, bicycle, and transit facilities. Anticipated increase in residential units under the SCS would accommodate the slight increase in full-time residents projected for the Plan Area through the 2045 planning year.

New and modified projects under the 2020 RTP/SCS include active transportation, community corridor and complete streets, operations and maintenance, and technology programs that facilitate safety, circulation, and parking, which are not growth-inducing projects, but rather are intended to accommodate future growth. Nonetheless, the SCS would facilitate affordable housing in that it provides a regional foundation to accommodate population growth projections for the region, across all jurisdictions within the Plan Area. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location relative to growth projections under previous analyses, there is no anticipated impact to housing demand or decrease in affordable housing in the Plan Area.

NO

b. Will the proposal result in the loss of housing for lower-income and very-low-income households?

As with the discussion under TRPA Section 12 - Housing item "a," above, projects under the 2020 RTP/SCS include active transportation, community corridor and complete streets, operations and maintenance, and technology programs that facilitate safety, circulation, and parking. These are not growth-inducing projects and do not include permanent residential development, although the Caltrans Tahoe City Maintenance Station would construct temporary dormitory housing for employees while they work on projects in the area. Nonetheless, the SCS would facilitate affordable housing as it improves transportation infrastructure and operations, reducing transportation costs for local residents and increasing locations where affordable housing can be built, as many affordable housing incentives are tied to proximity to transit, across all jurisdictions within the Plan Area. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location relative to growth projections under previous analyses, there would be no impact to housing demand or decrease in affordable housing in the Plan Area.

NO

15 Public Services

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
1 Fire protection?	2012 RTP/SCS EIR/EIS Impact 3.13-5 Section 3.13.4, Issues dismissed from Further Evaluation	No	No	No	Yes
2 Police protection?	2012 RTP/SCS EIR/EIS Impact 3.13-5 Section 3.13.4, Issues dismissed	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
		from Further Evaluation				
3	Schools?	2012 RTP/SCS EIR/EIS Section 3.13.4, Issues dismissed from Further Evaluation	No	No	No	N/A
4	Parks?	2012 RTP/SCS EIR/EIS Impact 3.11-1	No	No	No	N/A
5	Other public facilities?	Not addressed	No	No	Not discussed	N/A
TRPA Environmental Checklist: Section 14 – Public Services						
Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?						
a.	Fire protection?	2012 RTP/SCS EIR/EIS Section 3.13.4	No	No	No	Yes
b.	Police protection?	2012 RTP/SCS EIR/EIS Section 3.13.4	No	No	No	Yes
c.	Schools?	Section 3.13.4, Issues dismissed from Further Evaluation	No	No	No	N/A
d.	Parks or other recreation facilities?	2012 RTP/SCS EIR/EIS Impact 3.11-1	No	No	No	N/A

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
e. Maintenance of public facilities, including roads?	2012 RTP/SCS EIR/EIS Section 3.13.4	No	No	No	N/A
f. Other governmental services?	2012 RTP/SCS EIR/EIS Section 3.13.4	No	No	No	N/A

Discussion

The 2012 RTP/SCS EIR/EIS analyzed the effects of project implementation to public services, including police, fire protection, schools, parks, and other public facilities, along with utilities systems. In this IS/IEC, impacts to utilities systems are discussed under Section 19, *Utilities and Service Systems*. Proposed policies and projects under the 2020 RTP/SCS are intended to improve public facilities such as roads and connections between currently separated recreation facilities and public areas such as schools, trails, parks, beaches, and other recreation facilities. Additionally, projects include new and renovated stormwater systems, as well as maintenance. These projects would contribute to improved public services. Proposed safety improvements to transportation systems infrastructure would facilitate better service on behalf of fire and police protection services.

CEQA Environmental Checklist

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The 2012 RTP/SCS EIR/EIS found that existing contracts for local, state, and federal agencies to provide fire services throughout the Lake Tahoe region would be sufficient to accommodate the projects proposed under the 2012 RTP/SCS. Because new housing or other projects that would increase population and, therefore, demand for fire protection services, would not be part of the 2012 RTP/SCS, this issue was dismissed from further evaluation in the 2012 EIR/EIS. Similarly, the 2020 RTP/SCS does not propose projects that would increase residential or commercial development directly. Neither is it population-increasing in and of itself as proposed projects support transportation, recreation, and sustainable communities initiatives. Increased fire protection facilities would not be necessary to serve projects proposed under the 2020 RTP/SCS.

Construction or roadway maintenance could temporarily affect response times or other performance objectives. However, construction operators would be required to coordinate with

local agencies and implement traffic control plans under Mitigation Measure 3.13-5 from the 2012 RTP/SCS EIR/EIS, which would address emergency vehicle access for fire protection. Overall, substantial and adverse impacts to emergency public services would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The 2012 RTP/SCS EIR/EIS found that existing contracts for local, state, and federal agencies to provide police emergency services throughout the region would be sufficient to accommodate the projects proposed under the 2012 RTP/SCS. Because new housing or other projects that would increase population and demand for police protection services, were not be part of the 2012 RTP/SCS, this issue was dismissed from further evaluation in the 2012 EIR/EIS. Similarly, the 2020 RTP/SCS does not implement projects that would increase residential or commercial development directly. Neither is it population-increasing in and of itself as the proposed projects support transportation, recreation, and sustainable communities initiatives. Increased police protection facilities would not be necessary to serve projects proposed under the 2020 RTP/SCS.

Construction or roadway maintenance could temporarily affect response times or other performance objectives, but scheduling would be coordinated with local agencies and implement traffic control plans under Mitigation Measure 3.13-5 from the 2012 RTP/SCS, which would address emergency vehicle access for police protection. Overall, substantial and adverse impacts to emergency public services would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Similar to the 2012 and 2017 RTP/SCS, new schools would not be required to support the transportation projects associated with the 2020 RTP/SCS. The 2020 RTP/SCS is not population-increasing in and of itself as the proposed projects support transportation, recreation, and sustainable communities initiatives. A need for increased school facilities or services would not occur under the 2020 RTP/SCS. Some projects under the 2045 RTP/SCS would provide connectivity between schools and recreation facilities, resulting in beneficial effects. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Similar to the 2012 and 2017 RTP/SCS implementation of the 2020 RTP/SCS would benefit recreational uses as they would improve connectivity, add facilities, and enhance wayfinding. The 2020 RTP/SCS does not implement projects that would increase residential or commercial development directly and it is not a population-increasing plan in and of itself. The proposed projects support transportation, recreation, and sustainable communities initiatives and would not result in a need for increased maintenance or new parks that would cause significant environmental impacts. Furthermore, projects included under the 2020 RTP/SCS would supplement or increase recreation facilities (see Section 16, *Recreation*, for a full discussion of these facilities). Thus, service ratios and other performance objectives would not be impacted. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Although population increases are expected during the planning horizon, they are not anticipated to be more than those originally expected under the 2012 EIR/EIS or 2017 IS/IEC. Transportation projects proposed under the 2020 RTP/SCS do not involve new housing or other projects that would increase population, thus demand for other government facilities would not exceed those under the existing conditions. Furthermore, new and modified 2020 RTP/SCS projects support transportation, recreation, and sustainable communities initiatives and include maintenance projects that would resurface roadways and improve safety signage. A need for increased, new, or physically altered public facilities would not occur under the 2020 RTP/SCS, and no new significant impacts or

substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 14 – Public Services

Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?

a. Fire protection?

b. Police protection?

c. Schools?

d. Parks or other recreational facilities?

As mentioned in the Discussion section above, the 2020 RTP/SCS does not implement projects that would increase residential or commercial development directly as it is not a population-increasing plan in and of itself, but rather proposes projects and a land use scenario that accommodates anticipated growth in the Plan Area. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS projects support transportation, recreation, and sustainable communities initiatives. Existing emergency and school facilities would be sufficient to meet the needs of the residents and visitors under the 2020 RTP/SCS. Furthermore, recreational facilities would be increased with the implementation of active transportation and other connectivity projects under the 2020 RTP/SCS and no unplanned effects would occur that could impact parks or other recreational facilities. A need for new or altered government facilities or services for fire protection, police protection, schools, and parks would not occur. Refer to CEQA items “a.1” through “a.4” above for a discussion of these public services. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

e. Maintenance of public facilities, including roads?

As discussed in Section 17, *Transportation*, there would be less than significant impacts to road maintenance, with some projects such as the NDOT Complete Streets Project and the Caltrans Pavement Preservation Project on Route 28/Route 89, resulting in maintenance benefits. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

f. Other governmental services?

Please refer to CEQA item "a.5" for a discussion of impacts to public facilities and governmental services. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

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16 Recreation

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
a. Would the project Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	2012 EIR/EIS, Impact 3.11-1	No	No	No	N/A
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	2012 EIR/EIS, Impact 3.11-1	No	No	No	N/A
TRPA Environmental Checklist: Section 19 – Recreation					
Does the proposal:					
a. Create additional demand for recreation facilities?	2012 EIR/EIS, Impact 3.11-1	No	No	No	N/A
b. Create additional recreation capacity?	2012 EIR/EIS, Impact 3.11-1	No	No	No	N/A
c. Have the potential to create conflicts between recreation uses, either existing or proposed?	2012 EIR/EIS, Impact 3.11-2	No	No	No	N/A
d. Result in a decrease or loss of public access to any lake, waterway, or public lands?	2012 EIR/EIS, Impact 3.11-1	No	No	No	N/A

Discussion

Changes in recreation facility use often correlate with increases in population. The 2012 RTP/SCS EIR/EIS used the concept of people at one time (PAOT) as a measure of recreation capacity. Allocations of PAOTs are used to both promote and control recreation facility development. Although certain recreation facilities have a design capacity for a given number of people at a time (e.g., developed campgrounds), PAOTs are not a management tool and do not indicate the overall use of a site. PAOTs are intended to ensure that a "fair share" of the region's remaining resource capacity through water and sewer services is available for outdoor recreation areas and is allocated to projects that would result in an increase in the carrying capacity of recreation sites sewage systems.

The 2020 RTP/SCS includes new transportation projects and projects that were in the 2017 RTP/SCS and a land use strategy as part of the SCS. Although the 2020 RTP/SCS would accommodate new development anticipated in the forecast, the land use strategy that is part of the SCS includes a similar land use plan as in 2017. Therefore, assessment of recreation focuses on impacts from new transportation projects and increases in population because of new residents and visitors. New 2020 RTP/SCS projects that might affect recreation include new trails and trail linkages like the Nevada Stateline to Stateline Corridor Improvements project; the SR 28 Central Corridor Improvements – Sand Harbor to Spooner State Park; implementation of parking management under the Resort Triangle Transportation Plan in Placer County; and the parking management and wayfinding project in Tahoe City.

Recreational opportunities in the Plan Area are plentiful and change seasonally due to the nature of the environment. These are also distributed across multiple jurisdictions in California and Nevada. Recreation activities can be categorized as dispersed, developed, and urban, defined as follows:

- Dispersed recreation includes activities that generally do not require facilities such as hiking, primitive camping, fishing, backcountry and cross-country skiing, kayaking and rafting, and swimming.
- Developed recreation includes similar activities enhanced by the availability of built facilities such as campgrounds, marinas, and ski resorts operated on public or private lands.
- Urban recreation includes facilities normally found in a developed setting such as swimming pools, ice skating rinks, athletic fields, and neighborhood parks and usually is designed for and used by residents of the area rather than visitors and tourists.

USDA Forest Service, state park agencies, local jurisdictions, public utility districts, and private businesses, have management authority over recreation facilities. Public access to recreational opportunities depends on the type and location of the resource, and may include paved or unpaved roads, bicycle trails, and pedestrian trails.

CEQA Environmental Checklist

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Forecast growth analyzed in the 2020 RTP/SCS includes an increase in visitors and resident population. Based on data from the recreation travel survey, 60 percent of respondents travel to the area for recreational purposes (Lake Tahoe Info 2018).

The Regional Forecast Report indicates that for several years the permanent population in the Plan Area decreased due to changes in gaming industry, among other economic factors. This means that regional growth forecasts for the last decades have overestimated population increases and thus the need for housing and recreation facilities that would need to accommodate it (TRPA 2020b). The 2012 RTP/SCS EIR/EIS anticipated a fairly large regional population growth, commensurate with the growth rates throughout California. The 2017 IS/IEC used the same growth assumptions as the 2012 analysis. Actual population growth to the 2020 planning horizon for the 2012 RTP/SCS decreased approximately 26 percent compared to the 2010 population counts (US Census Bureau, American Communities Survey 2019). Since 2019, the population has been increasing slightly (3.7 percent on the California side and 4.1 percent on the Nevada side [US Census Bureau 2020]). The 2020 RTP Regional Forecast includes growth of the local residential population as result of increased job opportunities and initiatives that focus on affordable and achievable housing.

Current anticipated increases for the 2045 planning horizon, therefore, are less than or equal to those previously anticipated but not met under earlier planning efforts. Therefore, regional population increase is expected to be on track with the increase estimated during previous RTP/SCS planning processes and would, therefore, not lead to an unforeseen increase in demand on recreational facilities above what has already been analyzed.

TRPA anticipates an increase in visitors using the recreation facilities, based on projected population growth in nearby urban areas from which many visitors come to the region (TRPA 2020b). These visitors would be distributed across the region and would engage in a range of recreation forms, from indoor activities (e.g., resort spas, concerts, gaming) to trails and other outdoor recreation. The PAOT capacity measures anticipate that the increase in available recreational facilities, including outdoor and indoor, would have the sewer capacity to meet the potential increase in visitors. In addition, the 2020 RTP/SCS would provide several new alternative transportation opportunities to access recreational sites including new and expanded bicycle and pedestrian trails. New transportation options are designed to provide alternatives to and reduce reliance on the automobile. Increased focus on management tools such as real time information visitor information, reservation systems, and congestion-based pricing, could help reduce congestion at recreation hotspots and spread peak demand over space and time.

The 2020 RTP/SCS includes new projects that would increase accessibility to existing recreational facilities in the Plan Area by improving the conditions and connectivity of the transportation system. These recreation and transportation connections are developed through the corridor planning framework. Proposed projects in the 2020 RTP/SCS are intended to enhance and improve already existing transportation and mobility systems in the Plan Area, primarily through additional connection points and improvements to roadway conditions and safety features. Even with increased numbers of visitors, it is assumed that the increased number of facilities (i.e., trails) would meet increased demand as that demand would be distributed across the existing and new recreation spots, including dispersed, developed, and urban facilities. Thus, the new projects are

unlikely to increase demand in the Plan Area in a way that cannot be accommodated by existing and new recreational facilities. Through corridor planning, vehicle use is discouraged in favor of alternative modes of transportation that have more ability to manage visitation to spread it over time to reduce peak demand for those recreation demands, accommodating the same visitation in a less impactful manner.

The 2020 RTP/SCS includes several new projects to expand or create new bicycle and pedestrian paths and off-road trail systems. Paths and trails themselves are recreational facilities and could therefore lead to increased visitor demand on these and other recreation facilities where the paths lead. This increased demand can be offset by reducing vehicle access to recreation areas. Projects included in the 2020 RTP/SCS that may have recreational impacts from increased demand are as follows:

- Class I Bike Trail – Pine Boulevard to end of Linear Park Path west of Park Avenue (South Lake Tahoe)
- SR 28 Corridor Management Plan Implementation - Phase 1
- Nevada Stateline to Stateline Bikeway Laura Drive to Stateline (Phase 1a)
- Nevada Stateline Corridor Improvements – Glenbrook Entrance to Round Hill Pines Beach
- Class I Bike Path: East San Bernardino to West San Bernardino in El Dorado County
- South Tahoe Greenway Shared Use Trail, Phases 1b and 2
- SR 28 Central Corridor Improvements – Sand Harbor to Spooner State Park (phase 2 of the East Shore Tahoe Trail)
- North Tahoe Regional Bike Trail
- Nevada Stateline to Stateline Bikeway - Crystal Bay to Incline
- Brockway Vista Multi-Use Trail
- Alta Mira Public Access Improvements
- Nevada Stateline to Stateline Corridor Improvements - Glenbrook Entrance to Round Hill Pines Beach
- Fallen Leaf Road Pavement Rehabilitation and Recreational Access Project
- Tallac Historic Site, Valhalla, and the Visitor Center Improvements
- Lakeview Commons Phase 3 - Sustainable Communities

Developing these new trails, trail expansions, and access projects as part of the 2020 RTP/SCS may increase demand by drawing new users to the Plan Area, but these projects would also accommodate and benefit the many recreational users who already visit the Plan Area and would likely use these new proposed facilities along with the existing facilities. These projects are not planned in isolation. Many are in developed areas, closing gaps in the trail system, connecting town centers, and have either existing transit service or planned services and parking management. Through corridor planning new trail access to recreation sites is paired with parking restrictions and relocations, shifting use and not expanding overall capacity. Improved facilities, stronger management tools, and transportation options would, thus, redistribute existing and new use of recreation facilities across the Plan Area, basically increasing capacity commensurate with the increase in visitors. The broad geographic distribution of the proposed projects would also serve to spread out the number of users for existing and new facilities. The Plan Area spans the Lake Tahoe Basin, and new users would only visit a small number of locations each visit, dispersing demand on the facilities tied to the area in which the visit occurs. Furthermore, some new and existing visitors

would come to participate in urban recreation, such as shopping and gaming. These visitors are likely to be more focused on those activities and will use the dispersed or developed recreation facilities to a lesser extent.

TRPA anticipates an increase demand for recreation in the Plan Area. Several external factors including the economy, demand for other recreation destinations globally, population growth, changing demographics, and consumer trends cause the increase. Internal factors, such as expansion of recreation facilities are meant to better manage existing demand to serve the same amount of people across space and time and in a less damaging manner. Implementing user facing recreation apps can utilize algorithms to redirect visitation across the Plan Area based on a variety of factors. Continued implementation of existing recreational goals and polices would reserve adequate capacity for recreation and reduce impacts. While many of these visitors would travel to the Lake Tahoe region to take advantage of recreation facilities, the increase is not likely to be more than that anticipated by the RTP/SCS nor that analyzed in the 2012 EIR/EIS and 2017 IS/IEC. Thus, existing recreational facilities and their planned maintenance would meet increased demand without resulting in significant deterioration of those facilities. Furthermore, some of the proposed projects under the 2020 RTP/SCS would add to the existing recreational amenities to connect, extend, or augment active transportation facilities, resulting in a positive effect.

Potential impacts related to the use of recreational facilities were evaluated in the 2012 RTP/SCS EIR/EIS and reconsidered as part of the 2017 RTP/SCS IS/IEC. Impacts were found to be less than significant under both evaluations. New projects in the 2020 RTP/SCS would be similar in scope and nature and would correspond with updated estimates for resident and visitor recreational user increases. No new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

New and modified recreational projects included in the 2020 RTP/SCS have the potential to result in environmental impacts during construction and operation. Recreational projects that involve expanding or improving existing facilities would have fewer impacts than projects that include the construction of new facilities as the latter could develop undisturbed land. Roadway projects in urbanized areas are likely to have fewer impacts than those in undeveloped or dispersed areas for the same reason. The active transportation projects proposed in the 2020 RTP/SCS would supplement existing recreation facilities, including providing connectivity between existing trails. Their implementation would not necessitate additional facilities that would have adverse effects on the environment. Environmental impacts, including those associated with construction, under the 2020 RTP/SCS are discussed throughout this IS/IEC and were determined to be less than significant (with adherence to mitigation for some impacts). Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 19 – Recreation

a. Does the proposal create additional demand for recreation facilities?

The 2020 RTP/SCS is not a population-inducing project on its own but the Plan Area is anticipated to have an increase in population, as discussed above in CEQA item "a." Although population increases are expected during the planning horizon, they are not anticipated to be more than that originally expected under the 2012 EIR/EIS. Furthermore, the proposed project would augment the existing recreation facilities and shift visitor travel to other modes, not increase travel. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Does the proposal create additional recreation capacity?

The 2020 RTP/SCS includes new projects that would better accommodate recreation demand, and in some cases create additional capacity. As with those analyzed in the 2012 and 2017 RTP/SCS documents, numerous active transportation projects are part of the proposed 2020 RTP/SCS, along with new and improved pedestrian facilities within developed areas that increase capacity and have beneficial impacts, as analyzed under the 2012 EIR/EIS. Refer to CEQA item "a" above for a list of new and expanded active transportation projects. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and while additional capacity would be created, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Does the proposal have the potential to create conflicts between recreation uses, either existing or proposed?

Projects proposed under the 2020 RTP/SCS would not conflict with other recreation uses, as they do not conflict with existing goals and policies that provide for type, location, and rate of development of recreational uses and facilities. Proposed new projects would increase connectivity between existing recreation uses, for example the Route 89 Class 1 Bike Trail in El Dorado County. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Does the proposal result in a decrease or loss of public access to any lake, waterway, or public lands?

The 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC found that the proposed transportation improvement projects under the RTP/SCS would improve public access throughout the region. Projects proposed under the 2020 RTP/SCS would also increase public access to other recreation areas, as they would connect one facility with another, as with the Pope Beach Bike Path in El Dorado County. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those analyzed previously in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

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17 Transportation

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	2012 RTP/SCS EIR/EIS Impact 3.3-1, 3.3-2, 3.3-4, and 3.3-5	No	No	No	Yes
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	2012 RTP/SCS EIR/EIS Impact 3.3-3 and 2017 RTP/SCS IS/IEC Pages 3-53 to 3-54	No	No	No	N/A
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	2012 RTP/SCS EIR/EIS Impact 3.3-5	No	No	No	Yes
d. Result in inadequate emergency access?	2012 RTP/SCS EIR/EIS Impact 3.13-5	No	No	No	Yes
TRPA Environmental Checklist: Section 13 – Transportation/Circulation					
Will the proposal result in:					
a. Generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?	2017 RTP/SCS IS/IEC Page 3-58	No	No	No	N/A
b. Changes to existing parking facilities, or	2012 RTP/SCS	No	No	No	N/A

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
	demand for new parking?	EIR/EIS Chapter 2				
c.	Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?	2012 RTP/SCS EIR/EIS Impacts 3.3-1, 3.3-2, 3.3-3, 3.3-4, and 3.3-5	No	No	No	Yes
d.	Alterations to present patterns of circulation or movement of people and/or goods?	2012 RTP/SCS EIR/EIS Impacts 3.3-1, 3.3-2, 3.3-3, 3.3-4, and 3.3-5	No	No	No	Yes
e.	Alterations to waterborne, rail or air traffic?	2012 RTP/SCS EIR/EIS Impact 3.3-4	No	No	No	N/A
f.	Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?	2012 RTP/SCS EIR/EIS Impact 3.3-5	No	No	No	Yes

Regulatory Background

Since the 2012 EIR/EIS and 2017 IS/IEC, there have been changes to federal, state, and local transportation regulations relevant to the 2020 RTP/SCS. These new or updated regulations are discussed below.

Senate Bill 743

California Governor Jerry Brown signed SB 743 into law on September 27, 2013, which changed the way that public agencies evaluate the transportation impacts of projects under CEQA. In addition to new exemptions for projects that are consistent with specific plans, SB 743 is intended to replace congestion-based metrics, such as auto delay and level of service (LOS), with VMT as the basis for determining significant environmental impacts. Furthermore, parking impacts are no longer considered significant impacts on the environment for select development projects within infill areas with nearby frequent transit service. The intention of the new guidelines is to more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG

emissions. Revisions to the *CEQA Guidelines* were published in December 2018, with VMT analysis required for new CEQA compliance documents starting July 1, 2020.

2045 RTP Update Modeling Methodology and Results

To ascertain the existing and future traffic conditions in the region, a Traffic Operations Analysis was completed by Kittelson & Associates (Kittelson) in September 2020 (Appendix G). As described in this study, traffic operations were evaluated at seven key study intersections and 24 roadway segments. See Appendix G for a list and figure of roadway intersections and roadway segments analyzed for the 2020 RTP/SCS. These intersections and roadway segments remain consistent with those identified in the 2017 RTP/SCS document. This section presents the methods used to determine the LOS for the study intersections and roadways in the Plan Area and includes descriptions of the data requirements, analysis methodologies, and the applicable LOS standards. Traffic was evaluated under existing (2018) conditions and future (2045) conditions, both with and without the 2020 RTP/SCS.

Vehicles Miles Traveled

The TRPA VMT threshold standard was adopted in 1982 to improve water quality by reducing nitrate deposition from in-basin NO_X emissions from mobile sources (e.g. cars and trucks). Nitrogen emissions from mobile sources in the region have declined more than 66 percent since the standard was adopted, far in exceedance of the standard's goal. The VMT threshold, even with regional NO_X emissions steadily decreasing since 1989 and reductions far exceeding the 10 percent reduction initially envisioned by the standard, still remains.

The threshold standard established a VMT target in the Plan Area of 10 percent less than 1981 VMT levels. TRPA currently estimates this to be a daily VMT for the modelled day below 1,298,987. The existing (2018) VMT in the Plan Area for the modelled day is 1,393,994, exceeding the VMT threshold by 95,007 miles travelled. As discussed below, VMT in the Plan Area will continue to exceed the 1981 threshold but will increase only 1.2 percent by 2045 over current levels.

Because the 1982 nitrate objectives of the standard have not only been accomplished but also radically exceeded and the principal drivers of absolute VMT growth are outside TRPA's effective control, TRPA has commenced a process to update the VMT threshold. The update will align the standard with current concerns including GHG reduction, increased mobility, and reduced reliance on the automobile. Under direction of the Regional Plan Implementation Committee, TRPA is developing a metric promoting VMT reduction per capita to meet the GHG objectives of both California and Nevada that will also increase mobility options and decrease reliance on autos. TRPA anticipates updating the VMT threshold at the same meeting it adopts the 2020 RTP/SCS.

Nevertheless, this document analyzes any VMT related impacts as set forth in TRPA's 2019 Interim Guidance for assessing the impact of development projects and plans. Under the Interim Guidance, a project or plan would not cause a significant impact if the action does not produce any unmitigated VMT. VMT was evaluated for the 2020 RTP/SCS as included in the methods and guidance for assessing VMT for residents, employees, and visitors (Appendix G).

Level of Service

LOS describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated "A" through "F" from

best to worst, which cover the entire range of traffic operations that might occur. LOS "A" through "E" generally represent traffic volumes at less than capacity, while LOS "F" represents locations over capacity and/or experiencing significant delays. Although an analysis of LOS is no longer required under CEQA, TRPA requires an analysis of LOS for RTP updates. Therefore, a summary of LOS has been added to this IS/IEC for informational purposes. Intersection and roadway segment evaluation methodology, intersection volume data, and existing (2018) and future (2045) intersection and roadway LOS tables are included in Appendix G.

Existing Traffic Conditions

Data Collection and Assumptions for Roadway Volumes

Due to atypical travel patterns currently observed as a result of the COVID-19 pandemic, new traffic counts were not collected for this analysis. Existing 2018 counts/volumes were used as available. Where 2018 counts/volumes were not available, 2018 volumes for intersections and roadway segments were estimated based on the known 2018 traffic counts and standard methodologies from NCHRP Research Report 765 to adjust traffic volumes from available counts. Existing (2018 base year) volumes were compiled for each roadway segment. Values were collected or calculated to analyze operations for the study roadways. Roadway volume data and existing conditions are included in Appendix G.

CEQA Environmental Checklist

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The 2020 RTP/SCS provides an update to the 2017 RTP/SCS through limited changes to projects and programs for implementation in the Plan Area through 2045, as compared to a planning horizon of 2040 with the 2017 RTP/SCS. Generally, the types of short-term construction-related traffic required for implementation of new projects under the 2020 RTP/SCS would be similar to short-term construction required to implement the 2012 and 2017 RTP/SCS. The 2020 RTP/SCS transportation improvements project list updates the 2017 project list by removing projects completed since 2017, modifying some projects remaining on the list, and adding approximately 45 new minor projects to the list. Proposed new and modified projects would maintain a similar level of construction effort (and thus construction-related trips) between the 2012 and 2017 projects and the 2020 RTP/SCS new projects.

The 2020 RTP/SCS would include many of the same projects as under the 2017 and 2012 RTP/SCS, many of which are currently being implemented. New projects that would require construction include new bicycle infrastructure and corridor revitalization projects (such as the east San Bernardino Bike Path, Alta Mira Public Access Improvements, and Fallen Leafe Road Pavement Rehabilitation and Recreational Access Project, among others), which are similar in type to those included in the 2012 and 2017 RTP/SCS.

TRPA requires an analysis of LOS for RTP updates; however, because an analysis of LOS is no longer required under CEQA, while the LOS analysis is summarized herein, no impact conclusions are provided. All seven study intersections would continue to operate at an acceptable LOS during the PM peak hour under 2045 conditions and satisfy TRPA's LOS D standard (see Table 10 of Appendix G). Generally, delay would remain consistent with 2018 conditions, with the exception of the intersection of U.S. Highway 50 / Park Avenue, which would result in a significant reduction in delay

due to the realignment of U.S. Highway 50. Therefore, study intersections would be consistent with TRPA requirements in the *Threshold Standards and Regional Plan*.

Of the 25 roadway segments, nine would operate at an unacceptable annual average daily traffic (AADT) LOS and 11 would operate at an unacceptable LOS during the peak hour under 2045 conditions. Four roadways (#10 – Route 28 between Red Cedar Drive and Lakeshort Boulevard; #16 – Route 89 between Tucker Ave and U.S. Highway 50; #20 – Route 207 between U.S. Highway 50 and Kahle Drive; and #24 – Route 89 from Twin Crags to Route 28) would operate at LOS E during the peak hour but would improve to LOS D by the 5th highest hour, which the TRPA standards allow for urban facilities. Of the 10 roadway segments categorized as Highway Capacity Manual urban facilities, six would operate at an unacceptable LOS during the 5th highest hour. In comparison to existing conditions, the following LOS changes occur in future conditions:

- Both roadway #6A and #6B reflecting the realignment and reconfiguration of U.S. Highway 50 west of Pioneer Trail would improve from LOS E in existing conditions to LOS D.
- Roadway #9, Route 28 between Spooner Lake Trail and U.S. Highway 50, would improve from LOS D to LOS C in the peak hour.
- Roadway #11, Route 28 between Cal Neva Drive and Stateline Road, deteriorates from LOS E to LOS F in the peak hour.
- Roadway #16, Route 89 between Tucker Avenue and U.S. Highway 50, deteriorates from LOS D to LOS E in peak hour in 2045.

Roadway segments that would be affected by the 2020 RTP/SCS were considered in the 2012 EIR/EIS and 2017 IS/IEC and were determined to be potentially significant. Mitigation Measure 3.3-1 from the 2012 RTP/SCS requires TRPA to develop and implement a program for the phased release of land use allocations in four-year cycles in conjunction with future updates of the Regional Plan and RTP, monitoring of LOS, and a suite of responsive measures, if monitoring indicates a decrease in LOS. This measure would continue to apply to new and modified projects under the 2020 RTP/SCS.

Existing bicycle lanes and paths are present throughout the Plan Area, concentrated in South Lake Tahoe, as well as through Tahoe City, Kings Beach, and Incline Village. Bicycle facilities are proposed to connect these areas along the eastern and western boundaries of Lake Tahoe. Transit services provide service connecting all cities in the region, with additional service proposed to increase connectivity. Waterborne transit is also proposed between South Lake Tahoe, Kings Beach, and Tahoe City (TRPA 2019b). Pedestrian facilities, including sidewalks, shared-use paths, and crossings, are concentrated around urban and tourist-centered areas in the region (TRPA 2016b). The 2020 RTP/SCS would improve bicycle, pedestrian, and transit facilities consistent with the identified future facilities, by including new projects that either maintain or construct new such facilities. These projects would include sidewalks, dedicated pedestrian and bike paths, and other amenities to enhance user safety (including the following projects: Class I Bike Path: East San Bernardino - West San Bernardino, U.S. Highway 50 Sidewalk Construction - Kingsbury Grade to Lake Parkway, Lake Tahoe Boulevard Class I Bicycle Trail, Brockway Vista Multi-Use Trail, and NDOT Complete Streets Project, among others). Therefore, the 2020 RTP/SCS would be consistent with regional bicycle, pedestrian, and transit-related plans and policies in the region.

Overall, substantial and adverse impacts to bicycle, pedestrian, transit, and roadway facilities would remain less than significant and would be similar to what would occur under the 2012 RTP/SCS

EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The 2020 RTP/SCS updates the plan's build-out year and the forecast for VMT in the Plan Area. The 2020 RTP/SCS is designed to curb VMT growth from residents, employers and visitors, while promoting regional goals and providing more transportation options and enhance travel management programs. Based on the updated VMT modeling estimates (Appendix G), VMT in 2045 would be 1,410,202 with implementation of the 2020 RTP/SCS. A summary of VMT in the Plan Area is shown in Table 16.

Table 15 VMT Summary

Year	Annual Daily Average VMT	Percent Increase from Baseline	Exceed Threshold
2018	1,393,994	N/A	Yes
2035	1,388,320	0	Yes
2045	1,410,202	1.2	Yes
Threshold	1,298,987		

N/A = not applicable
Source: Appendix G

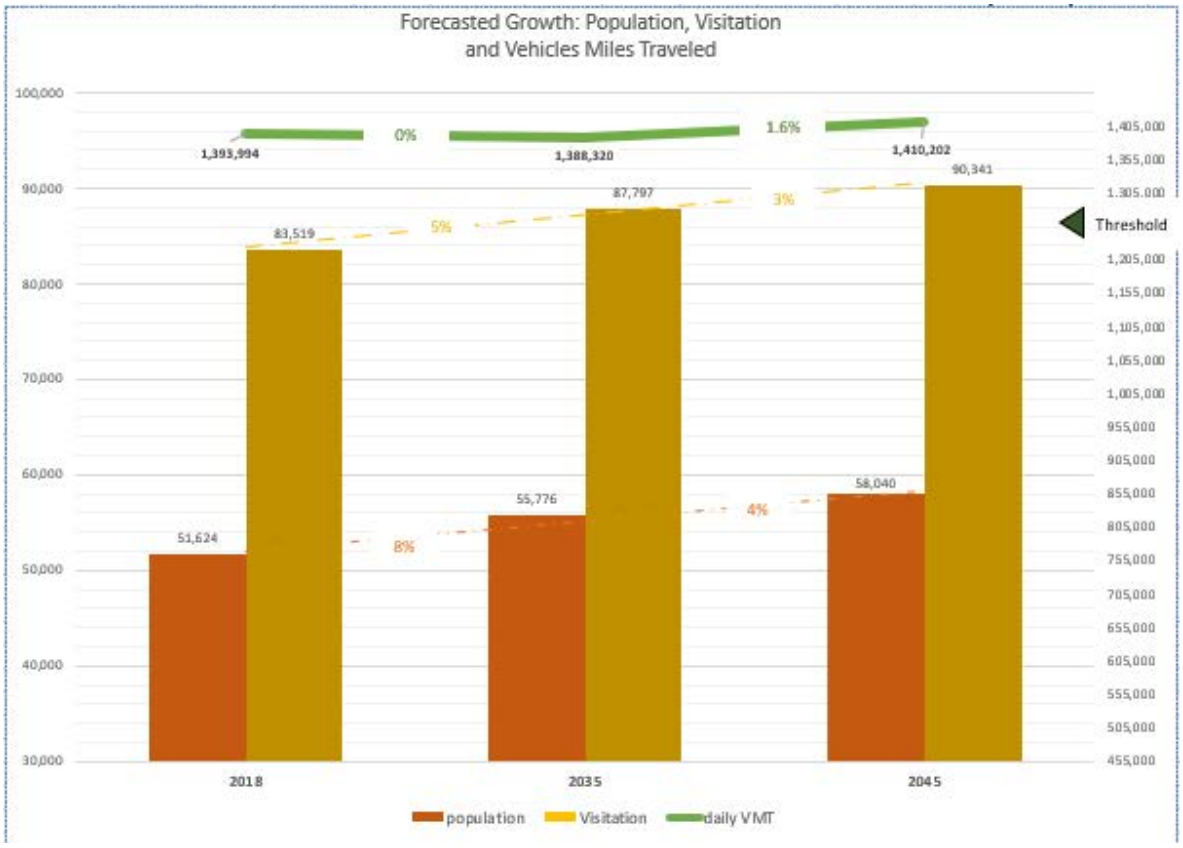
As shown in Table 16, existing (2018) VMT exceeds the TRPA Threshold of 1,298,987 by 95,007 vehicle miles. In 2045, with implementation of the 2020 RTP/SCS, the TRPA threshold would only increase by 16,208 vehicle miles over the 25 year plan horizon.

The 2020 RTP/SCS itself reduces auto trips and VMT through paid parking strategies, increases in free and frequent transit, enhanced trip reduction programs, and added trail connections. These VMT reduction strategies were incorporated into the Trip Reduction Impact Analysis (TRIA) tool to calculate trip reductions from the 2020 RTP/SCS that were not directly represented in the model. Prior to TRIA modeling, the 2020 RTP/SCS would have a VMT of 1,505,533 or 15 percent above the TRPA VMT standard. VMT reduction strategies, as modeled in TRIA, result in a VMT reduction of 95,331 as compared to pre-TRIA modeling. Therefore, strategies included in the 2020 RTP/SCS result in a net reduction in VMT by approximately six percent. Under TRPA's Interim Guidance, the 2020 RTP/SCS itself would therefore not have a significant adverse impact.

Notwithstanding the beneficial impact of implementing the 2020 RTP/SCS, the Plan Area in the 2045 condition would exceed the VMT threshold value (as the region does today) by an additional 1.2 percent even though the RTP strategies are VMT reducing strategies. In other words, the beneficial effects of the 2020 RTP would not completely offset VMT generated by anticipated population and visitation growth. The 2020 RTP/SCS curbs the increase in VMT over the 25 year plan period, specifically when compared to anticipated population and visitation to the Plan Area during the planning horizon as shown in Figure 8. From 2018 to 2045, population is anticipated to increase by 12 percent and visitation by eight percent, while VMT would decrease from 2018 to 2035 and increase by two percent from 2035 to 2045, for a net increase of 1.2 percent. Thus, while

implementation of the 2020 RTP/SCS would be beneficial regarding VMT (and therefore not cause an adverse impact under CEQA), it would not be beneficial enough to reduce VMT by an additional 8 percent (or 111,215 vehicle miles) to meet the current VMT threshold.

Figure 8 Forecasted Growth in VMT, Population and Visitation



In order to adopt the 2045 RTP/SCS, TRPA's Compact and Code require the Governing Board to find that the entire Regional Plan (including the RTP), will eventually achieve and maintain the VMT threshold. TRPA, however, has limited levers to control the exogenous VMT generation that primarily drives the nonattainment status of the threshold. For example, TRPA may limit allocation of new development commodities. TRPA Code Section 50.4.3 requires TRPA to stop issuing residential allocations if the agency cannot conclude the VMT threshold will be maintained over the next four years. As the current VMT threshold is presently out of attainment and is not anticipated to come back into attainment by 2045, no residential allocations will be distributed. The VMT "savings" associated with the loss of these 2,234 units would be 40,000 – 50,000 VMT. Similarly, TRPA could preclude construction of all new projects containing Commercial Floor Area (CFA) and Tourist Accommodation Units (TAUs) and the conversion of CFA and TUAs to preclude additional development. Removing these units could save another 25,000-35,000 VMT. Thus, limiting distribution of development commodities would not be enough to reduce VMT below the TRPA threshold. TRPA could also seek to cap both the population of the Plan Area or the number of visitors coming into Tahoe Basin. All of these measures are of questionable legality and would face significant policy objections from many stakeholders. However, absent measures that could be found to achieve and maintain the current VMT threshold, TRPA cannot adopt an RTP.

As discussed above, TRPA commenced a process to update the VMT threshold to reflect concerns more directly measured by VMT, including GHG reduction, increased mobility, and reduced reliance on the automobile. Under direction of the Regional Plan Implementation Committee, TRPA is developing a metric promoting VMT reduction per capita to meet the GHG objectives of both California and Nevada that will also drive increases in mobility and decrease reliance on autos. Because the 2020 RTP/SCS limits VMT growth to nominal levels that exceed state standards, TRPA will likely be able to make the necessary findings to adopt the 2020 RTP/SCS.

LESS THAN SIGNIFICANT IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS would improve overall efficiency of the transportation. Projects proposed under the 2020 RTP/SCS would similarly implement pedestrian and bicycle facilities improvements that would offer opportunities to separate pedestrian and bicycle travel from roadway travel lanes, thus reducing the potential for conflicts. These projects would include sidewalks, dedicated pedestrian and bike paths, and other amenities to enhance user safety (including the following projects: Class I Bike Path: East San Bernardino - West San Bernardino, U.S. Highway 50 Sidewalk Construction - Kingsbury Grade to Lake Parkway, Lake Tahoe Boulevard Class I Bicycle Trail, and NDOT Complete Streets Project, among others). Transportation projects included in the 2020 RTP/SCS would be required to implement Mitigation Measure 3.3-1 from the 2012 RTP/SCS EIR/EIS to construct, where feasible, additional multi-modal corridor improvements (beyond those listed in the RTP projects list) should LOS monitoring project that applicable LOS goals and policies will not be met. These improvements could include modification of access control and widening and realigning roadways to improve curves that enhance roadway safety.

Individual transportation projects would be subject to project-level environmental analyses to determine project-specific impacts, including the potential for hazards, as required by the TRPA Code. Overall, substantial and adverse impacts from traffic hazards would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

d. Would the project result in inadequate emergency access?

The 2020 RTP/SCS would affect the same area as previously analyzed in the 2017 RTP/SCS IS/IEC, and proposed changes to the RTP/SCS would not substantially alter the type or density of projects such that different or more severe impacts to emergency access would result. Further, the project would comply with all appropriate mitigation identified in the 2012 RTP/SCS EIR/EIS, including Mitigation Measure 3.13-5 to prepare a traffic control plan and coordinate with affected emergency response agencies. Additionally, pursuant to TRPA Code of Ordinances Section 22.7.6, *Traffic Mitigation*, construction of transportation and land use projects under the 2020 RTP/SCS requiring lane or intersection closures of a state or federal highway for more than one hour, or the closure of U.S. Highway 50 at any point between the South Y and Kingsbury Grad for any period of time, would be required to submit a traffic analysis for review that includes measures necessary to mitigate all traffic impacts to a level consistent with TRPA thresholds. Adherence to this standard would reduce potential for construction to temporarily impact emergency access. Overall, substantial and adverse

impacts to emergency access would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

TRPA Environmental Checklist

SECTION 13 – TRANSPORTATION/CIRCULATION

a. Will the proposal result in generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?

While individual projects in the RTP could generate over 100 new vehicle trips to a particular location, such as a new destination bike trail, the 2020 RTP/SCS is designed to reduce vehicle trips overall. This would be achieved through transportation corridor management planning, including improved transit, parking management, and real time travel information TRPA anticipates implementation of the 2020 RTP/SCS would reduce vehicle trips by six percent by 2045 as compared to not implementing these strategies. As a result, implementation of the project would reduce VMT that is anticipated in the region from increased population and visitation growth. As discussed above, the 2020 RTP/SCS would not have a significant impact under TRPA's Interim VMT Guidance.

More specifically, the 2020 RTP/SCS would not alter any land uses beyond those envisioned by the 2017 RTP/SCS that would generate daily trips in the long-term. In addition, the purpose of the bicycle and transit projects included in the 2020 RTP/SCS is to reduce daily vehicle trips within the Plan Area. Although construction of projects under the 2020 RTP/SCS would generate additional vehicle trips, these trips would be temporary. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts.

NO

b. Will the proposal result in changes to existing parking facilities, or demand for new parking?

Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS would also include projects that would decrease the demand for parking and projects that would increase or improve parking facilities (including Camp Richardson Resort and Campground BMPs and Retrofit, Route 28 Central Corridor Improvements – Sand Harbor to Spooner State Park, and Mobility Hub and Transit Center Capital). Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. In addition, individual projects would be required to complete project specific environmental review and comply with local jurisdictional standards, which would further reduce impacts.

NO

c. Will the proposal result in substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?

As discussed above under CEQA item "a," all study intersections would operate acceptably while 14 of the roadway segments would operate unacceptably, and the 2020 RTP/SCS would improve bicycle, pedestrian, and transit facilities consistent with existing goals and policies. Unacceptable roadway segments were considered in the 2012 RTP/SCS EIR/EIS, and impacts under the 2020 RTP/SCS would similarly be adequately addressed by Mitigation Measure 3.3-1. The 2020 RTP/SCS would improve bicycle, pedestrian, and transit facilities consistent with the identified future facilities, by including new projects that either maintain or construct new such facilities. Overall, substantial and adverse impacts to roadway facilities would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

d. Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

As discussed above under CEQA item "a," all study intersections would operate acceptably while 14 of the roadway segments would operate unacceptably. Unacceptable roadway segments were considered in the 2012 RTP/SCS EIR/EIS, and similar to the 2012 RTP/SCS, for the 2020 RTP/SCS impacts would be adequately addressed by Mitigation Measure 3.3-1. This measure would ensure LOS impacts from the 2020 RTP/SCS would be reduced to less than significant. Projects included in the 2020 RTP/SCS would also be subject to Mitigation Measure 3.13-5, which requires the preparation and implementation of traffic control plans to address construction-related traffic impacts in roadway rights-of-way. This would ensure adequate circulation is provided during potential roadway disruptions during construction activities. Overall, substantial and adverse impacts to roadway facilities would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

e. Will the proposal result in alterations to waterborne, rail or air traffic?

The 2020 RTP/SCS would include many of the same projects as under the 2017 and 2012 RTP/SCS. New and or modified projects that would require construction include new bicycle, pedestrian, transit, and roadway infrastructure and corridor revitalization projects, which are similar in type to those included in the 2012 and 2017 RTP/SCS. No rail or air traffic alterations are proposed under the 2020 RTP/SCS, and the development of various transit, bicycle, pedestrian, and roadway improvements would not impede existing or proposed waterborne, rail, or air traffic operations. Additionally, the TTD Transit Capital Enhancements and Fleet Replacement and North Shore Water Taxi Project Phase 2035 projects would improve existing water taxi services. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

f. Will the proposal result in increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

As discussed above under CEQA items "a" and "d," the 2020 RTP/SCS would improve overall safety of the transportation system. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

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18 Tribal Cultural Resources

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	2012 RTP/SCS EIR/EIS Impact 3.15-5	No	No	No	Yes
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	2012 RTP/SCS EIR/EIS Impact 3.15-5	No	No	No	Yes

Discussion

Tribal consultation, if requested as provided in Public Resources Code Section 21080.3.1, must begin prior to release of a negative declaration, mitigated negative declaration, or environmental impact report for a project. Information provided through tribal consultation may inform the lead agency's assessment as to whether tribal cultural resources are present, and the significance of any potential impacts to such resources. Prior to beginning consultation, lead agencies may request information from the Native American Heritage Commission regarding its Sacred Lands File, per Public Resources

Code sections 5097.9 and 5097.94, as well as the California Historical Resources Information System administered by the California Office of Historic Preservation.

The Washoe Tribe of Nevada and California is an important partner in transportation planning at Lake Tahoe, as Lake Tahoe is the traditional center of the Washoe world. The Tribe owns and manages land in the Plan Area, such as Skunk Harbor and operates Meeks Bay Resort under an agreement with the USFS. Washoe are the original inhabitants of the Lake Tahoe Region. The Tribe and TRPA have acknowledged the mutual benefit of a formalized process for communication for land, transportation, and resource management decision making and other governmental relations. Both parties have a strong interest in the protection of social, biological, and Tribal cultural resources in the Lake Tahoe Region and recognize that collaboration and cooperation is the best method to achieve these goals.

For the 2020 RTP/SCS, TRPA engaged the Washoe tribe on the overall RTP strategy and more specifically, on the Route 89 project. The Tribe is interested in including education and interpretation along the transportation corridors and has identified a need for a Washoe Cultural site at Meeks Bay and Taylor Creek. TRPA will continue to engage the Tribe as the East Shore Corridor Plan develops along U.S. Highway 50.

Pursuant to AB 52 requirements, TRPA sent out letters on March 19, 2020 to the following tribes in the region: Auburn Rancheria, Bridgeport Paiute, Browns Valley, Shingle Springs, Colfax, Nashville Enterprise, Walker River, and the Washoe. TRPA did not received comment on any 2020 RTP/SCS project and the comment period ended on April 18, 2020.

CEQA Environmental Checklist

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

Potential impacts related to ethnic and cultural values as they relate to tribal cultural resources were evaluated in the 2012 RTP/SCS EIR/EIS Impact 3.15-5. Similar to the 2012 RTP/SCS, implementation of the 2020 RTP/SCS would authorize new development that has the potential to cause physical changes that would affect unique ethnic cultural values or restrict historic or prehistoric religious or sacred uses within the region. Because the 2020 RTP/SCS would result in some new construction over the planning period, new development has the potential to disturb, disrupt, or restrict ethic and cultural uses and values through implementation of specific transportation projects. Projects under the 2020 RTP/SCS would be required to comply with federal and state regulations and TRPA Code standards for the protection of tribal resources and provide processes to avoid or minimize impacts to these resources. TRPA Code Standard 67.3.2 requires projects in areas with known or newly discovered sites of cultural significance include a site survey prior to TRPA approval. This standard also requires consultation with the Washoe Tribe on all site surveys to determine if tribally significant sites are present. If resource(s) are discovered and deemed significant, then a resource protection plan is required. TRPA Code Standard 67.3.3 requires

this plan be prepared by a qualified professional and may provide for surface or subsurface recovery of data and artifacts and recordation of structural and other data.

As identified in Section 5, *Cultural Resources*, project activities could still uncover or destroy historic or archaeological resources during grading and excavation, pile driving, and heavy equipment use or include alignments that overlap existing historical resources. Additionally, although standards are in place to protect human remains, project activities could still result in accidental discovery during grading and excavation. Accidentally discovered remains could be of Native American origin.

Implementation of Mitigation Measures 3.15-1a, 3.15-1b, 3.15-1c, 3.15-2a, 3.15-2b, 3.15-2c, 3.15-2d, and 3.15-3 from the 2012 RTP/SCS would reduce impacts to cultural and ethnic values, similar to the 2017 RTP/SCS, because they would require consultation with the Native American Heritage Commission and the Washoe Tribe; require avoidance, preservation in place, excavation, documentation, and/or data recovery of historical and archaeological resources; and require assessment of and adherence to a formal recommendation for any discovered human remains. Overall, substantial and adverse impacts to tribal cultural resources would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

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TRPA Environmental Checklist

There are no TRPA environmental checklist items specific to this topic.

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19 Utilities and Service Systems

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Would the project:					
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	2012 EIR/EIS Impact 3.13-1, Impact 3.13-4	No	No	No	Yes
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	2012 EIR/EIS Impact 3.13-2	No	No	No	N/A
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	2012 EIR/EIS Impact 3.13-4	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
d.	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	2012 EIR/EIS Impact 3.13-3	No	No	No	N/A
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	2012 EIR/EIS Impact 3.13-3	No	No	No	N/A
TRPA Environmental Checklist: Section 16 – Utilities						
Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:						
a.	Power or natural gas?	Section 3.13.4, Issues dismissed from Further Evaluation	No	No	No	N/A
b.	Communication systems?	Section 3.13.4, Issues dismissed from Further Evaluation	No	No	No	N/A
c.	Utilize additional water which amount will exceed the maximum permitted capacity of the service provider?	2012 EIR/EIS Impact 3.13-2	No	No	No	N/A
d.	Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider?	2012 EIR/EIS Impact 3.13-4	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
e.	Storm water drainage?	2012 EIR/EIS Impact 3.8-2	No	No	No	Yes
f.	Solid waste and disposal?	2012 EIR/EIS Impact 3.13-3	No	No	No	N/A

Discussion

Projects included in the 2020 RTP/SCS could include the extension of existing, or construction of new electric, gas, water, wastewater, and stormwater infrastructure to serve new transportation facilities, such as the improvements to the Lake Tahoe Community College transfer terminal in conjunction with the college or bathroom and water fountains associated with new bike trails and other trailhead locations. Because the 2020 RTP/SCS is not a growth-inducing plan (Chapter 5 of the 2012 RTP EIR/EIS, "Other TRPA- and CEQA-Mandated Sections"), impacts associated with implementation of the 2020 RTP/SCS would not be expected to cause substantial long-term effects to existing utility systems. Section 3.13.4 of 2012 RTP EIR/EIS included issues dismissed from further evaluation as the project would result in no impact; these included impacts to existing utility systems and increases in long-term solid waste production.

Projects new to the 2020 RTP/SCS that may have utility impacts include the connector trails throughout the Plan Area and corridor and community improvements, such as sidewalks, parking management, and signage, and street and roadway maintenance associated with projects like the Bike and Pedestrian Facilities project in Placer County and the Improved Parking Management and Wayfinding in Tahoe City. Most of these would either have no utility impact or would improve existing conditions, as discussed below.

Projects under the 2020 RTP/SCS must comply with Chapter 32, Basic Services, of the TRPA Code of Ordinances which establishes standards for water, wastewater treatment, and electrical services. Sections 32.4 and 32.5 of the TRPA Code contain a basic water service and wastewater requirement for projects proposing construction of a new structure or reconstruction or expansion of an existing structure, designed or intended for human occupancy. Although TRPA does not specifically regulate the provision of electrical services in the Plan Area, Section 32.6 of the Code directs that projects proposing construction of a new structure or reconstruction or expansion of an existing structure designed or intended for human occupancy shall be served by facilities to provide adequate electrical supply. Projects would also be subject to local jurisdiction utilities standards as well as state and federal regulations.

CEQA Environmental Checklist

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

The 2012 RTP/SCS EIR/EIS planned for increased population through the 2020 and 2035 planning horizons that was not met by actual growth rates. Instead population in the Plan Area declined between 2010 and 2020. Population growth that would occur during the 2045 planning horizon would be commensurate with that anticipated in the earlier analyses. Therefore, there would be no need for expansion of existing facilities because new and modified projects in the 2020 RTP/SCS are within the capacity previously analyzed for the RTP/SCS. The 2012 EIR/EIS anticipates the implementation of new or expanded stormwater facilities and sediment control projects. The 2020 RTP/SCS projects include some drainage system projects such as the Caltrans Pavement Preservation project. Otherwise, as for the 2012 and 2017 RTP/SCS, no new utilities that include electric power, natural gas, or telecommunications facilities would be necessary, because the transportation projects proposed under the 2012 and 2017 RTP/SCS did not involve new housing or other facilities that would require such facilities. Similarly, new and modified projects under the 2020 RTP/SCS are similar in scope, location, and nature to those analyzed as part of the 2012 and 2017 RTP/SCS. Furthermore, these include projects that support transportation, recreation, and sustainable communities initiatives and include maintenance projects that would resurface roadways and improve safety signage, for example. A need for increased, new, or physically altered utilities would not occur under the 2020 RTP/SCS, and no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

The 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC determined that projects under the RTP/SCS would not result in the need to construct new electric power, natural gas, or telecommunications facilities or to expand existing facilities, as implementation of the RTP/SCS would not result in a substantial increase in permanent resident population. Because projects under the 2020 RTP/SCS will be similar in nature, scale, and location to those analyzed in these previous two reports, and projects implemented will require site specific design and mitigation, impacts to electric power, natural gas, or telecommunications facilities would be less than significant.

Similar to the 2012 and 2017 RTP/SCS new and modified projects proposed under the 2020 RTP/SCS would have potential impacts to related to demand for wastewater collection and treatment, based on the potential, but unknown, increase in public restroom use associated with bicycle paths, recreation projects, and other community improvement projects. Mitigation Measure 3.13-4 from the 2012 RTP/SCS would apply to projects under the 2020 RTP/SCS and allow for anticipation of new wastewater collection and treatment demand based on anticipated increases in public restroom use for each project and assure needs would be met on a project-by-project basis. Overall, substantial and adverse impacts to utility services would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

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b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Similar to the 2012 and 2017 RTP/SCS implementation of proposed transportation improvements and future projects facilitated by the land use scenario envisioned in the 2020 RTP/SCS could result in both short-term and long-term impacts to water supply in the Plan Area. Implementation of new and modified projects under the 2020 RTP/SCS could require water supply for construction activities and water supply to serve toilets, sinks, spigots, and stormwater facilities and maintenance activities. These projects are not expected to require an excess amount of water that would substantially reduce the public water supply. However, Chapter 32.4 of the TRPA Code of Ordinances requires that new development only be approved based on the distribution and storage of water in quantities and of quality adequate for domestic consumption and fire protection, including meeting adequate minimum fire flow requirements. Because all projects would be subject to individual assessments of their water demands and similar in type and scale to projects in the 2012 and 2017 RTP/SCS projects under the 2020 RTP/SCS would have sufficient water supply. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Similar to the 2012 and 2017 RTP/SCS, new and modified projects under the 2020 RTP/SCS could generate need for increased wastewater collection and treatment. Mitigation Measure 3.13-4 from the 2012 RTP/SCS would require project-specific approvals for wastewater collection and/or treatment be implemented from projects under the 2020 RTP/SCS. Overall, substantial and adverse impacts to wastewater treatment would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

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d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The 2020 RTP/SCS would implement transportation projects that would not generate substantial increased solid waste during operation as they would not be associated or create new sources of substantial solid waste disposal, such as residential or commercial development. Furthermore, projects under the 2020 RTP/SCS are not growth-inducing projects in and of themselves and would not be substantial generators of solid waste. During project construction solid waste could be generated that would need to be disposed of at local landfills or transported to construction waste recycling facilities. Construction projects would be required to recycle materials per CalGreen regulations, which require 65 percent of non-hazardous construction and demolition waste to be recycled or salvaged for reuse.

Projects would also be required to meet local construction and demolition waste management ordinances, if they are more stringent (CalRecycle 2020). According to a 2013 GHGs reduction gap analysis, no current TRPA codes govern construction and demolition recycling, although the City of South Lake Tahoe, Placer County, and El Dorado County all require recycling or salvage of 50 percent minimum non-hazardous construction and demolition debris, and the completion of a construction waste management plan for the project (Sierra Business Council 2013). Douglas County has a program to divert concrete and asphalt from landfills. The analysis further recommends best practices that include requirements to reuse materials on site and to recycle or salvage 65 to 80 percent of non-hazardous materials, and 100 percent of asphalt and concrete. The 2012 RTP/SCS indicated that "planned facility expansions at Lockwood Regional Landfill and proposed strategies to reduce solid waste production in the region would allow for sufficient capacity over the next 20 years" (TRPA 2012). The planning horizon under the 2020 RTP/SCS extends an additional 13 years, which is beyond the analysis in the 2012 EIR/EIS. Nonetheless, because the 2020 RTP/SCS does not include projects that induce growth (e.g., residential development) and because the amount of growth anticipated through 2045 is within the growth projections made in the 2012, the need for additional solid waste facilities is not anticipated.

The State of Nevada Solid Waste Management Plan encourages ongoing and increased recycling efforts, with special mention of waste generated in Douglas and Washoe counties (State of Nevada 2017). The Lockwood Landfill promotes separation and recycling of construction waste, including that associated with transportation projects, diverting these wastes from landfill deposit (Waste Management 2020). The laws in California that govern solid waste disposal focus more specifically on recycling than do those in Nevada. Even though solid waste from the Plan Area is exported to landfills in Nevada, 2020 RTP/SCS policies indicate that solid waste disposal will be governed by "existing state policies and laws," meaning that the more exacting recycling approach would be applied to construction materials recycling for any projects that generate those materials. Between expanded capacity and recycling policies, capacity at regional landfills continues to be adequate to support projects implemented under the 2020 RTP/SCS. With adherence to recycling policies and diverting construction debris, projects associated with the 2020 RTP/SCS would not impair or otherwise impact solid waste reduction goals. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Projects implemented under the 2020 RTP/SCS would continue to abide by policies that relate to solid waste exportation and reduction. Please refer to CEQA item "d" above for a discussion of solid waste impacts. Because projects under the 2020 RTP/SCS will be similar in nature, scale, and location and will require site specific design, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

Section 16 – Utilities

Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. Power or natural gas?

The 2020 RTP/SCS would implement transportation projects that would not generate substantial increased need for electric or natural gas supply because growth projections for the 2020 RTP/SCS fall within those analyzed in 2012. Please refer to Section 6, *Energy*, for a more detailed discussion of electrical power and natural gas impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

b. Communication systems?

The 2020 RTP/SCS would implement transportation projects that would not generate substantial increased use of communication systems because growth projections for the 2020 RTP/SCS fall within those analyzed in 2012. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider?

The 2020 RTP/SCS would implement transportation projects that would not generate water use over maximum permitted capacities. Refer to CEQA item “b” above for a discussion of water demand impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

d. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider?

As discussed under CEQA item “a” above and similar to the 2012 and 2017 RTP/SCS, new and modified projects proposed under the 2020 RTP/SCS would have potential impacts related to demand for wastewater collection and treatment, based on the potential, but unknown, increase in public restroom use associated with bicycle paths, recreation projects, and other community improvement projects. Mitigation Measure 3.13-4 from the 2012 RTP/SCS would apply to projects under the 2020 RTP/SCS and allow for anticipation of new wastewater collection and treatment demand based on anticipated increases in public restroom use for each project and assure needs would be met on a project-by-project basis. Overall, substantial and adverse impacts to utility

services would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. With mitigation, maximum permitted capacity would not be exceeded with project implementation.

NO WITH MITIGATION

e. Storm water drainage?

The 2020 RTP/SCS would implement transportation projects that could generate increased need for storm water drainage, as discussed above. Refer to CEQA item “b” above for a discussion of storm water drainage impacts and the project-specific mitigation required. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO WITH MITIGATION

f. Solid waste and disposal?

The 2020 RTP/SCS would implement transportation projects that would not generate increased need for solid waste disposal, beyond that discussed in CEQA item “d” above, related to construction and demolition debris. Although TRPA codes do not regulate disposal of construction and demolition maintenance, enforcement of BMPs to reuse or recycle construction waste, as discussed in CEQA item “d” above would reduce impacts. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as those under the 2012 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

20 Wildfire

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	2012 RTP/SCS EIR/EIS Impact 3.13-5	No	No	No	N/A
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	2012 RTP/SCS EIR/EIS Impact 3.14-3	No	No	No	N/A
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	2012 RTP/SCS EIR/EIS Impact 3.14-3	No	No	No	N/A
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	2012 RTP/SCS EIR/EIS Impact 3.14-3	No	No	No	N/A

Discussion

According to the 2012 RTP/SCS EIR/EIS, the Lake Tahoe Region is considered a "fire environment" because of the climate, steep topography, and high level of available fuel. The threat of catastrophic fire has been identified as the number one public concern in the Lake Tahoe Region. The combination of large amounts of hazardous fuels and one of the highest ignition rates in the Sierra Nevada, particularly in urban areas, contributes to the risk of a devastating wildfire. Region-wide fire modeling to evaluate the likely effects of unplanned fires on urban areas has shown that the most severe fires, and therefore the most catastrophic effects, would occur in lower elevation pine and mixed conifer forests.

In June 2007, the Angora Fire began from an unattended campfire near the North Upper Truckee Road subdivision near Angora Lakes, Fallen Leaf Lake, Echo Lake, and South Lake Tahoe. The fire initially spread 4 miles in three hours and burned more than 250 structures on private property, including more than 200 homes. Containment required several days. Most of the 3,072 acres within the fire perimeter involved USFS lands, but about 300 urban lots owned by USFS, the California Tahoe Conservancy, California State Parks, and El Dorado County, and 231 acres of private property also burned (California Department of Forestry and Fire Protection [CAL FIRE] 2007).

In California, CAL FIRE has established Fire Hazard Severity Zones (FHSZ) for the entire state, including the California portion of the Plan Area. FHSZs assess wildland fire potential based on fuel load, climate, and topography. The classification system provides three classes of fire hazards: Moderate, High, and Very High.

Nevada does not have an equivalent FHSZ classification system for fire hazards. However, in the Nevada portion of the Plan Area, the Nevada Division of Forestry has identified communities in areas of extreme, high, and moderate fire risk. These communities have been included in Community Wildfire Protection Plans (CWPPs) developed for these areas. Figure 9 shows the potential threat of wildfire in the Plan Area as determined by the CWPPs and CAL FIRE FHSZs. The CWPPs include provisions for defensible space, fire safe landscaping, homeowner tips, and fire safety guidelines.

The Lake Tahoe West Restoration Partnership is a multi-agency, collaborative effort to increase the resilience of the forests, watersheds, recreational opportunities, and communities on Lake Tahoe's west shore. The West Shore landscape, 60,000 acres of over dense second growth forest, is vulnerable to high-severity wildfire, drought, climate change, and forest insect and disease outbreaks. The Lake Tahoe West Restoration Project will use forest thinning, prescribed burning, reforestation, and habitat restoration of forests, meadows, streams, and wildlife habitat to improve the landscape's resilience to future disturbances from wildfire.

With the severity of fires growing season over season, forest management and fire agencies at every level of government have been looking at the efficiency of forest practice rules and regulations. TRPA similarly has been streamlining, removing redundancy, and adding best practices to its forest practices Code for the Plan Area. TRPA has worked collaboratively with the regulations working group of the Tahoe Fire and Fuels Team to amend TRPA Code of Standards Chapter 61.3, Vegetation Protection and Management. In May 2020, staff presented proposed amendments to Chapter 61.3. to the Governing Board Forest Health and Wildfire Committee for discussion and direction. Staff brought proposed Chapter 61.3. code language back to the committee in July 2020 for approval and recommendation to the full Governing Board, although the revised language has not yet been adopted.

Figure 9 Fire Hazards in the Plan Area

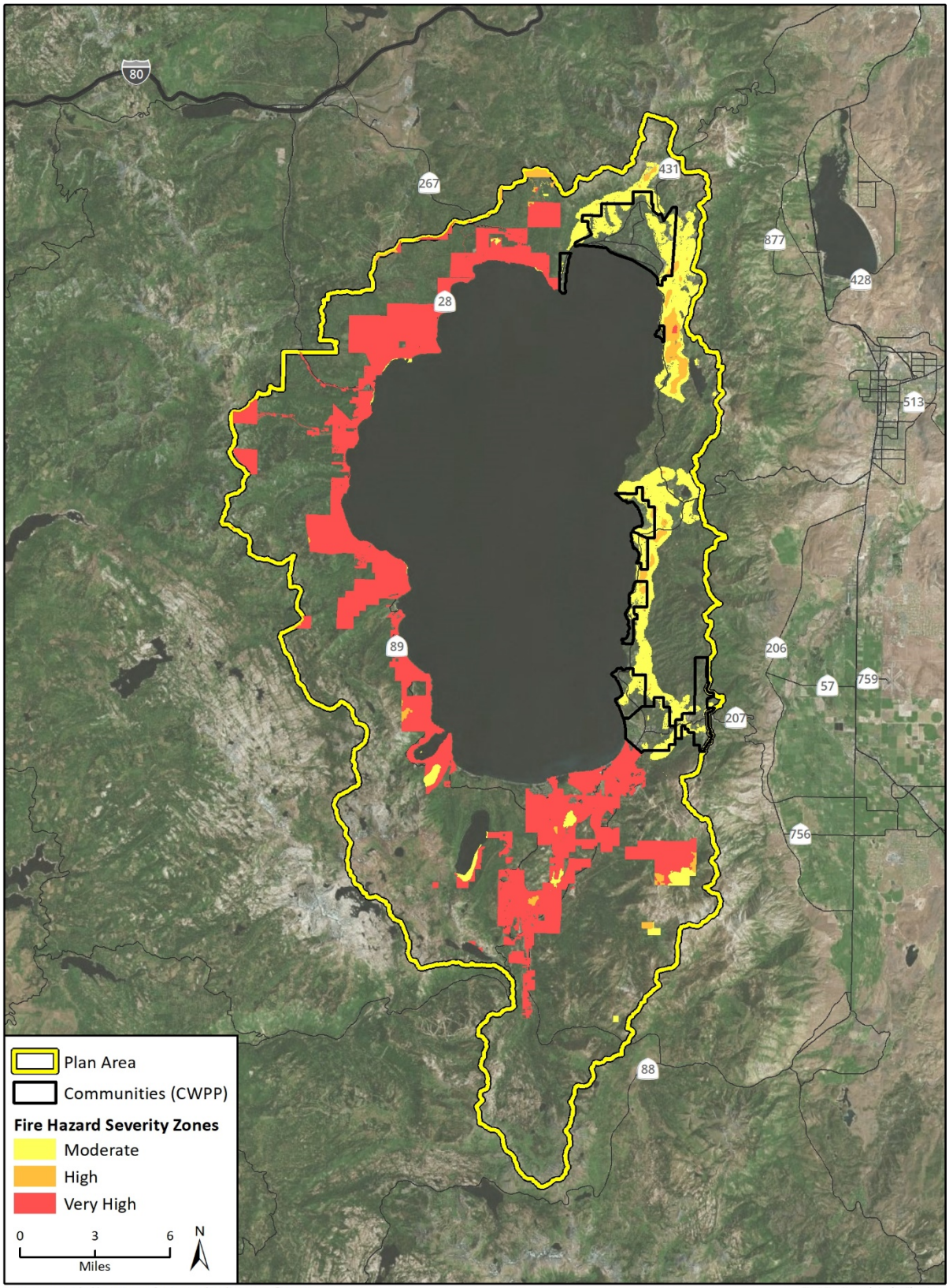

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Fig 4 Fire Hazards in the Plan Area

Appendix G guidelines published in December of 2018 require that environmental analysis include a discussion of the potential wildfire impacts of proposed projects, with emphasis on avoiding impairment of an emergency response plan, reducing risk of uncontrolled spread of a wildfire, and requiring installation of associated infrastructure that may exacerbate fire risk. The 2012 EIR/EIS and 2017 IS/IEC did not include a separate section analyzing potential environmental impacts related to the topic of wildfire because it was not required under the CEQA Guidelines in effect at the time of the 2012 and 2017 analysis. The topic of emergency response plans or emergency evacuation plans was, however addressed in Impact 3.13-5 of the 2012 EIR/EIS. Also, the topic of exposing people or structures to significant risks was addressed in impact 3.14-3 of the 2012 EIR/EIS.

New or modified projects included in the 2020 RTP/SCS would require construction and long-term maintenance of bikeway improvements, new bike trails, new pedestrian paths and sidewalks, new transit terminals, and new traffic signage.

CEQA Environmental Checklist

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

As described in Section 2, *Project Description*, above, the 2020 RTP/SCS is an update to the current 2017 RTP/SCS and includes changes in transportation projects to address the needs of the region and future land use patterns. The 2020 RTP/SCS land use scenario, similar to that contained in the 2012 RTP/SCS and the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. However, as evidenced by an increase in wildfires including the 2018 Camp Fire in Butte County, urban areas are also susceptible to wildfires, despite the lower abundancy of typical wildfire fuels.

New and modified transportation projects included in the 2020 RTP/SCS would involve the construction of transportation facilities including trails, bikeways, pedestrian facilities, and other non-motorized paths, as well as improvements to existing roadways and bridges. While the majority of these projects would be in urbanized areas, some projects would inevitably be located in areas at risk of wildfires. As shown on Figure 9 above, CAL FIRE has mapped the majority of the shoreline including urbanized areas as Very High FHSZ in State and Local Responsibility Areas (CAL FIRE 2020). Additionally, on the Nevada side of the Plan Area, several shoreline areas are included in areas of high fire risk and are incorporated in CWPPs.

The most recent Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy was adopted in 2014 and is a unified multi-jurisdictional strategic synopsis of various planning efforts to address wildfire in the Lake Tahoe Region. A goal of the Strategy is to provide effective and efficient wildfire response by ensuring that all jurisdictions participate in making and implementing safe, effective, and efficient risk-based wildfire management decisions. All the local fire agencies under the Strategy individually have adopted community wildfire protection plans as their primary wildland fire prevention and mitigation documents. In addition, any new planning project requiring a TRPA permit must first provide their local fire department a site plan that includes plans for creating defensible space as well as emergency site access.

Impact 3.14-3 of the 2012 RTP/SCS EIR EIS notes that implementation of the 2012 RTP/SCS would result in some new development that could increase the demand for fire protection. However, this previous environmental analysis concluded that as with other project development, environmental review of specific public facility projects would be required to ensure that impacts to emergency

response are identified in coordination with local fire departments and mitigated. Additionally, construction activities would not increase fuel loading or reduce defensible space in the Plan Area. The 2020 RTP/SCS would have similar requirements such that where construction of transportation infrastructure or systems are developed, project level environmental analysis would be conducted to ensure that preexisting emergency evacuation routes are maintained.

The increase in population anticipated under the land use scenario for the 2020 RTP/SCS is within the anticipated growth forecasts for the 2012 RTP/SCS and 2017 RTP/SCS and is therefore accounted for with existing fire and emergency response services. Therefore, the population increase projected under the 2020 RTP/SCS land use scenario would not impair adopted emergency response and emergency evacuation plans, as it is within the growth projections of adopted plans. As described in Section 9, *Hazards and Hazardous Materials*, all projects under the 2020 RTP/SCS would be required to prepare and implement a TCP such that construction activities are coordinated with local agencies to ensure emergency access is not substantially deteriorated. Additionally, pursuant to TRPA Code of Ordinances Section 22.7.6, *Traffic Mitigation*, construction of transportation and land use projects under the 2020 RTP/SCS requiring lane or intersection closures of a state or federal highway for more than one hour, or the closure of U.S. Highway 50 at any point between the South Y and Kingsbury Grad for any period of time, would be required to submit a traffic analysis for review that includes measures necessary to mitigate all traffic impacts to a level consistent with TRPA thresholds. Adherence to this standard would reduce potential for construction to temporarily impair implementation of an emergency response or evacuation plan.

Adherence to Mitigation Measure 3.13-5 from the 2012 RTP/SCS would reduce short-term impacts to the implementation of an emergency response or evacuation plan because individual projects would be required to prepare a TCP such that construction activities are coordinated with affected agencies to ensure emergency response times are not substantially deteriorated. Overall, substantial and adverse impacts related to emergency response or evacuation would remain less than significant with implementation of existing TRPA policies and mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

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b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

New and modified transportation projects included in the 2020 RTP/SCS would involve the construction of transportation facilities including trails, bikeways, pedestrian facilities, and other non-motorized paths, as well as improvements to existing roadways and bridges. While the majority of these projects would be in urbanized areas, some projects would inevitably be located in areas at risk of wildfires. As shown above in Figure 9, CAL FIRE has mapped the majority of the shoreline including urbanized areas as Very High FHSZ in State and Local Responsibility Areas (CAL FIRE 2020). Additionally, on the Nevada side of the Plan Area, several shoreline areas are included in areas of high fire risk and are incorporated in CWPPs.

As described in Section 9, *Hazards and Hazardous Materials*, in all cases where construction of transportation infrastructure or systems are developed, project level environmental analysis would be conducted to ensure wildfire risk has been identified, and that projects adhere to regulations

related to protection of the environment and public from pollutant concentration. The 2020 RTP/SCS, the only project including habitable structures in the 2020 RTP/SCS is the Caltrans Tahoe City Maintenance Station project which would demolish existing employee housing and construct a new dormitory building. This project in addition to other development in the Plan Area may be subject to wildfire risk. Any new construction, including residences or commercial uses would be subject to the California Fire Code and the International Fire Code, as adopted by NRS 477.030. These regulations include safety measures to minimize the threat of fire, including ignition-resistant construction with exterior walls of noncombustible or ignition resistant material from the surface of the ground to the roof system and sealing any gaps around doors, windows, eaves and vents to prevent intrusion by flame or embers. Title 14 of the California Code of Regulations sets forth the minimum development standards for emergency access, fuel modification, setback, signage, and water supply, which help prevent loss of structures or life by reducing wildfire hazards.

Similar to the 2012 and 2017 RTP/SCS, new and modified projects under the 2020 RTP/SCS would be required to adhere to the policies and standards for maintaining defensible space and reducing fuel load. Specifically, Natural Hazards, Goal 1, Policy 3 of the Land Use Element of TRPA's Regional Plan that encourages the use of fire-resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. This policy also requires that forest fuels are managed to be consistent with state laws and other goals and policies of the Regional Plan. TRPA Code of Ordinances Section 61.3.6(D), *Vegetation Management to Prevent the Spread of Wildfire*, requires that in areas of significant fire hazard, as determined by local, state, or federal fire agencies, flammable or other combustible vegetation shall be removed, thinned, or manipulated in accordance with local and state law. Adherence to the requirements of these codes and regulations would reduce the risk of loss, injury or death from wildfire for new development envisioned by the 2020 RTP/SCS.

As described above under CEQA item "a," projects included in the 2020 RTP/SCS would be developed to support emergency preparedness and response planning related to wildfire. With implementation of emergency preparedness policies included in the 2020 RTP/SCS and adherence to fire codes and regulations, the risk of pollutants due to wildfire would be reduced to a less than significant level. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

As described in Section 2, *Project Description*, above, the 2020 RTP/SCS is an update to the current 2017 RTP/SCS and includes changes in transportation projects to address the needs of the region and future land use patterns. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS land use scenario concentrates the forecasted growth in population and employment in already urbanized areas. New and modified transportation projects included in the 2020 RTP/SCS would involve the construction of transportation facilities including trails, bikeways, pedestrian facilities, and other non-motorized paths, as well as improvements to existing roadways and bridges. Additionally, as

described in Section 19, *Utilities and Service Systems*, the 2020 RTP/SCS would not require installation of new power line or other utilities that may exacerbate wildfire risk.

When construction of transportation infrastructure or systems under the 2020 RTP/SCS are developed, project level environmental analysis would be conducted to ensure wildfire risk has been identified, and that projects adhere to regulations including requirements for defensible space and emergency access. As described above under CEQA item "a," projects included in the 2020 RTP/SCS would be developed to support emergency preparedness and response planning related to wildfire. With implementation of emergency preparedness policies included in the 2020 RTP/SCS and adherence to fire codes and regulations, the potential for exacerbated wildfire risk due to installation or maintenance of infrastructure would be reduced to a less than significant level. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

New and modified transportation projects included in the 2020 RTP/SCS would involve the construction of transportation facilities including trails, bikeways, pedestrian facilities, and other non-motorized paths, as well as improvements to existing roadways and bridges. Similar to the 2012 and 2017 RTP/SCS, the 2020 RTP/SCS land use scenario concentrates the forecasted growth in population and employment in already urbanized areas. The 2020 RTP/SCS land use scenario would continue to concentrate development within community centers, consistent with the current development pattern, and the location, distribution, density, and growth of the human population in the Plan Area would be expected to remain similar to those under the existing conditions. Therefore, new areas of the Plan Area would not be opened to substantial development and, as described in Section 14, *Population and Housing*, increases in the Plan Area population would be limited by the development rights and allocations.

Although population is projected to increase under the land use scenario for 2020 RTP/SCS, the only project including habitable structures in the 2020 RTP/SCS is the Caltrans Tahoe City Maintenance Station project which would demolish existing employee housing and construct a new dormitory building. This project in addition to other development in the Plan Area may be subject to wildfire risk. All proposed development would be assessed on a project-by-project basis and would be subject to site specific environmental analysis to ensure the project conforms to all existing regional and local regulations to minimize impacts due to adverse effects involving flooding or landslides, post-fire slope instability, or drainage changes. Construction projects in the Plan Area would be required to meet multiple requirements and regulations of the TRPA, LRWQCB (in California), NDEP (in Nevada), and federal and local agencies. These requirements include preparation of a SWPPP pursuant to the NPDES Phase II Stormwater Program for projects larger than one acre and the implementation of BMPs for sediment and erosion control. Per requirements of TRPA Code Section 33.4, future development would be required to undergo site-specific geotechnical analysis, and if applicable, employ design standards that consider seismically active areas and comply with current California and Nevada building codes and local jurisdictional seismic standards.

New and modified projects under the 2020 RTP/SCS would be required to adhere to the policies and standards for maintaining defensible space and reducing fuel load. Specifically, Natural Hazards, Goal 1, Policy 3 of the Land Use Element of TRPA's Regional Plan that encourages the use of fire-resistant materials and fire preventative techniques when constructing structures, especially in the highest fire hazard areas. This policy also requires that forest fuels are managed to be consistent with state laws and other goals and policies of the Regional Plan to reduce wildfire risk. TRPA Code of Ordinances Section 61.3.6(D), *Vegetation Management to Prevent the Spread of Wildfire*, requires that in areas of significant fire hazard, as determined by local, state, or federal fire agencies, flammable or other combustible vegetation shall be removed, thinned, or manipulated in accordance with local and state law.

Additionally, as development continues throughout the Plan Area, projects would be required to consider regional fire hazards and include measures to ensure that defensible space is maintained, and excessive fuel is reduced. In California, Public Resources Code 4291 requires 100 feet of defensible space around homes in high fire risk areas. Additionally, in Washoe County, Nevada, all projects requiring a building permit must establish and maintain defensible space surrounding structures in accordance with the 2018 International Wildland Urban Interface Code.

As described above under CEQA item "a," projects included in the 2020 RTP/SCS would be developed to support emergency preparedness and response planning related to wildfire. With implementation of emergency preparedness policies included in the 2020 RTP/SCS and adherence to fire codes and regulations, the potential for flooding or landslides, post-fire slope instability, or drainage changes due to wildfires would be reduced to a less than significant level. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

LESS THAN SIGNIFICANT IMPACT

TRPA Environmental Checklist

There are no TRPA environmental checklist items specific to this topic.

21 Mandatory Findings of Significance

	Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
CEQA Environmental Checklist					
Does the project:					
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	2012 EIR/EIS Impact 3.10-1, 3.10-2, 3,10-3, 3.10-4, 3.15-1, 3.15-2, 3.15-3	No	No	No	Yes
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	2012 EIR/EIS Chapter 4.3	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
c.	Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	2012 EIR/EIS Impacts in Chapters 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.11, 3.12, 3.13, 3.14, 3.15	No	No	No	Yes
TRPA Environmental Checklist: Section 21 – Findings of Significance						
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory?	2012 EIR/EIS Impact 3.10-1, 3.10-2, 3.10-3, 3.10-4, 3.7-4	No	No	No	Yes
b.	Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)	2012 EIR/EIS Chapter 4.3	No	No	No	Yes

		Where was Impact Analyzed?	Do Proposed Changes Require Major Revisions to the 2017 IS/IEC?	Do New Circumstances Require Major Revisions to the IS/IEC?	Any New Information Resulting in New or Substantially More Severe Significant Impacts?	Do IS/IEC Mitigation Measures Address and/or Resolve Impacts?
c.	Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?)	2012 EIR/EIS Chapter 4.3	No	No	No	N/A
d.	Does the project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?	2012 EIR/EIS Impacts in Chapters 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.11, 3.12, 3.13, 3.14, 3.15	No	No	No	Yes

Discussion

This section presents the analysis for mandatory findings of significance and if new circumstances would result in new impacts, whether new information has arisen that requires further analysis or verification, and if mitigation adopted in the 2012 RIP EIR/EIS would resolve any identified impacts.

The 2020 RTP/SCS contains policies, programs, and projects that would result in long-term environmental benefits and protection of environmental resources in the Plan Area. As discussed throughout this document, changes in projects from the 2017 RTP/SCS may result in different site-specific impacts that could require implementation of mitigation measures to ensure protection of the environment. Projects new to the 2020 RTP/SCS include several active transportation initiatives, community and corridor projects, some operations and maintenance projects, and technology projects. Many of these support ongoing work or provide connectivity and completion of existing initiatives. See Table 1 in Section 2, *Project Description*, for a complete list and a brief description of each project. A summary of potential environmental impacts discussed in this analysis follows.

CEQA Environmental Checklist

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The analysis in this report finds that, similar to the 2012 and 2017 RTP/SCS, most of the special-status species known or with potential to occur in the Plan Area are not expected to occur in most of the areas impacted by proposed transportation projects or be affected by implementation of the 2020 RTP/SCS. The 2012 EIR/EIS provided mitigation measures to reduce impacts to biological resources that would apply to new and modified projects in the 2020 RTP/SCS. Mitigation measures include:

- Mitigation Measure 3.10-1a: Implement Vegetation Protection Measures and Revegetate Disturbed Areas
- Mitigation Measure 3.10-1b: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits
- Mitigation Measure 3.10-2: Minimize Tree Removal and Develop a Tree Removal Management Plan
- Mitigation Measure 3.10-3: Conduct Preconstruction Surveys and Develop and Implement Native-Fish Capture and Translocation Plan
- Mitigation Measure 3.10-4a: Conduct Follow-Up, Pre-Construction Surveys and Avoid, Minimize, or Compensate for Impacts on Special-Status Plant Species
- Mitigation Measure 3.10-4b: Conduct Pre-Construction Surveys for Nesting Special-Status Birds, and Implement a Limited Operating Period if Necessary
- Mitigation Measure 3.10-4c: Conduct Pre-Construction Surveys for Special-Status Bats, Avoid Removal of Important Roosts, and Implement a Limited Operating Period, if Necessary
- Mitigation Measure 3.10-5a: Implement Weed Management Practices during Project Construction
- Mitigation Measure 3.10-5b: Implement Aquatic Invasive Species Management Practices during Project Construction

Overall, substantial and adverse impacts to biological resources would be reduced to less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

Impacts to known and unknown cultural, historic, and tribal resources would be avoided and minimized through federal and state regulations and TRPA Code standards. In addition, the 2012 EIR/EIS provided mitigation measures to reduce impacts to cultural and tribal resources and would apply to new and modified projects in the 2020 RTP/SCS. Mitigation measures include:

- Mitigation Measure 3.15-1a: Prepare a Site-Specific Historic Resources Inventory Report
- Mitigation Measure 3.15-1b: Survey for Historic Resources
- Mitigation Measure 3.15-1c: Record Historic Buildings or Structures

- Mitigation Measure 3.15-2a: Prepare a Site-Specific Archaeological Resources Inventory Report
- Mitigation Measure 3.15-2b: Conduct Archaeological Testing and Data Recovery
- Mitigation Measure 3.15-2c: Conduct Archaeological Monitoring

Overall, substantial and adverse impacts to cultural resources would be reduced to a less than significant level with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The 2012 and 2017 RTP/SCS analysis found that the policies, projects, and programs in the 2012 and 2017 RTP/SCS would not result in cumulatively considerable impacts for the following issue areas: Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Public Safety, Hydrology and Water Quality, Land Use, Noise, Population and Housing, Public Services and Utilities, Transportation, Tribal Cultural Resources, and Wildfire. Because new projects included in the 2020 RTP/SCS would be of similar nature, scale, and location, and would include site-specific design and mitigation, no further analysis of cumulative impacts for these topic areas is required here either.

Section 8 of this report notes that GHG emissions and climate change more generally are inherently cumulative. The impact discussions in that section serve as a cumulative analysis for the 2020 RTP/SCS. Because many of the projects are GHG-reducing in nature and intent, mobile source and operational GHG emissions would be substantially reduced and, like the 2017 RTP/SCS, the 2020 RTP/SCS would not result in cumulatively considerable impacts to GHG emissions with implementation of mitigation from the 2012 RTP/SCS EIR/EIS.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As with the 2012 RTP/SCS and the 2017 update, projects implemented under the 2020 RTP/SCS would require project-level environmental review and would be required to comply with all applicable TRPA, federal, state, county, and city regulations and any mitigation measures provided in the 2012 RTP/SCS EIR/EIS to reduce adverse effects on human begins. These include protections for human health, safety, and welfare. Therefore, implementation of the 2020 RTP/SCS would not create a substantial direct or indirect, adverse effect on human beings. Overall, substantial and adverse impacts to human beings (directly or indirectly) would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

TRPA Environmental Checklist

Section 21 – Findings of Significance

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory?

Analysis of this issue is discussed above, under CEQA item "a," in the discussion of biological resources, which also lists the mitigation measures provided in the 2012 EIR/EIS that would apply to new and modified projects under the 2020 RTP/SCS. Overall, substantial and adverse impacts to biological resources would be reduced to a less than significant level with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

Impacts to known and unknown cultural, historic and tribal resources are discussed above, under CEQA item "a" discussion of cultural and historic resources, which also lists the mitigation measures provided in the 2012 EIR/EIS that would apply to new and modified projects under the 2020 RTP/SCS. Overall, substantial and adverse impacts to cultural and tribal resources would be reduced to less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future).

The analysis in this report finds that, similar to the 2012 and 2017 RTP/SCS, many of the projects would result in less than significant impacts. As each project would be subject to site-specific environmental analysis, any notable impacts would be subject to mitigation and projects would be required to comply with local, regional, state, and federal regulations. Because projects included in the 2020 RTP/SCS would be similar in nature, scale, and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond those previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

NO

c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?)

This issue is discussed in CEQA item "b," above. Because new projects included in the 2020 RTP/SCS would be of similar nature, scale, and location, and would include site-specific design and mitigation, no further analysis of cumulative impacts for these topic areas is required here either. Similarly, the cumulative impacts of GHG emissions are discussed in Section 8 and in CEQA item "b," above. Because many of the projects are GHG-reducing in nature and intent, mobile source and operational GHG emissions would be reduced and, like the 2017 RTP/SCS, the 2020 RTP/SCS would not result in cumulatively considerable impacts to GHG emissions.

NO

d. Does the project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?

This issue is discussed in CEQA item "c," above for a discussion of impacts on human beings. Overall, substantial and adverse impacts would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

NO WITH MITIGATION

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5.2 List of Preparers

Rincon Consultants, Inc. prepared this IS/IEC under contract to the Tahoe Regional Planning Agency. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Appendix A

2020 RTP/SCS vs. 2017 RTP/SCS Goals and Policies Crosswalk

Existing Goal	Existing Policy	Focus Area	Revised Policy
Environment	1.1 Support mixed-use, transit oriented development, and community revitalization projects that encourages walking, bicycling, and easy access to existing and planned transit stops.	Community	1.1 Support mixed-use, transit oriented development, and community revitalization projects that encourages walking, bicycling, and easy access to existing and planned transit stops.
Environment	1.2: Leverage transportation projects to benefit multiple environmental thresholds through integration with the Environmental Improvement Program.	Community	1.2: Leverage transportation projects to achieve and maintain environmental thresholds through integration with the Environmental Improvement Program.
Environment		Community	New Policy: Implement greenhouse gas reduction strategies in alignment with federal, state, and regional requirements and goals.
Environment	1.3: Mitigate the regional and cumulative traffic impacts of new, expanded, or revised developments or land uses by prioritizing projects and programs that enhance non-automobile travel modes.	Community	1.3: Develop and implement project impact analysis, mitigation strategies and fee programs to reduce Vehicle Miles Travelled and auto trips.
Environment	1.4: Facilitate the use of electric and zero emission vehicles and fleets by supporting deployment of vehicle charging infrastructure within the Region, and supporting incentives and education of residents, businesses, and visitors related to the use of electric and zero emission vehicles.	Technology	1.4: Facilitate and promote the use of zero emission transit, fleet, and passenger vehicles through implementation of the Tahoe-Truckee Plug-in Electric Vehicle Readiness Plan, education, incentives, funding, and permit streamlining.
Environment	1.5: Require major employers of 100 employees or more to implement vehicle trip reduction programs.	Community	1.5: Collaborate with all jurisdictions and employers in the basin to develop, maintain, and implement programs to reduce employee vehicle trips.

Environment	1.6 Require new and encourage existing major commercial interests providing gaming, recreational activities, excursion services, condominiums, timeshares, hotels and motels to participate in transportation demand programs and projects.	Community	Delete
Environment	1.7: Coordinate with the City of South Lake Tahoe to update and maintain an Airport Master Plan and limit aviation facilities within the Tahoe Region to existing facilities.	Transit	1.7: Coordinate with the City of South Lake Tahoe to update and maintain an Airport Master Plan and limit aviation facilities within the Tahoe Region to existing facilities.
Environment	1.8 Strongly encourage traffic calming and noise reduction strategies when planning transportation improvements.	Community	1.8 Traffic calming and noise reduction strategies, to achieve noise standards and Community Noise Equivalent Levels, should be included when planning transportation improvements.
Environment	1.9: Develop and implement a cooperative continuous, and comprehensive Congestion Management Process to adaptively manage congestion within the Region's multi-modal transportation system.	Technology	1.9: Develop and implement a cooperative continuous, and comprehensive Congestion Management Process to adaptively manage congestion within the Region's multi-modal transportation system, with a focus on peak traffic period and Basin entry/exit routes.
Connectivity	2.1 Coordinate with Federal, state, and local government as well as private sector partners to identify and secure adequate transit service funding that provides a viable and reliable transportation alternative to the private automobile for all categories of travelers in the Region.	Transit	2.1 Coordinate with Federal, state, and local governments, transportation management associations, and private sector partners to fund and operate reliable transportation alternatives.

Connectivity	2.2: Provide frequent transit service to major summer and winter recreational areas.	Transit	2.2: Provide frequent transit service to recreational areas, including trailheads and shoreline access points.
Connectivity	2.3: Establish regional partnerships with surrounding metropolitan areas to expand transit to and from Lake Tahoe.	Transit	2.3: Collaborate with regional and inter-regional partners to establish efficient transportation connections within the Trans-Sierra Region including to and from Tahoe and surrounding communities.
			New Policy: Collaborate with nearby communities that share transportation to and from the Tahoe Basin, including but not limited to; the Town of Truckee, the Placer County Resort Triangle, Sacramento, Bay Area, Reno, and the Carson/Minden valley.
Connectivity	2.4: Improve the existing transit system for the user making it frequent, fun, and free in targeted locations. Consider and use increased frequency, preferential signal controls, priority travel lanes, expanded service areas, and extended service hours	Transit	2.4: Improve the existing transit system for the user making it frequent, fun, and free in targeted locations.
Connectivity	2.5: Integrate transit services across the Region. Develop and use unified fare payment systems, information portals, and shared transfers.	Transit	Delete

Connectivity	2.6: Consider waterborne transportation systems using best available technology to minimize air and water quality impacts in coordination with other modal options, as an alternative to automobile travel within the Region.	Transit	2.6: Use the best available technology to implement waterborne transportation systems that coordinates with other travel options consistent with the Shoreline Plan Greenhouse Gas Reduction Strategy.
Connectivity	2.7: Provide specialized public transportation services for individuals with disabilities through subsidized fare programs for transit, taxi, demand response, and accessible van services.	Transit	2.7: Provide specialized and subsidized public transportation services and programs for individuals with disabilities that is consistent with Coordinated Human Services Transportation plans.
Connectivity		Community	New Policy: Ensure all transportation projects, programs, and policies meet the transportation needs and minimize negative impacts for disadvantaged communities and people with special needs
Connectivity	2.8 Make transit and pedestrian facilities ADA-compliant and consistent with Coordinated Human Services Transportation Plans.	Community	2.8 Ensure that pedestrian and bicycle facilities are Americans With Disabilities Act (ADA) compliant and Universally Accessible.
Connectivity		Community	New Policy: Ensure all transit is Americans with Disabilities Act (ADA) compliant, Universally Accessible, and consistent with Coordinated Human Services Transportation Plans.
Connectivity	2.9: Develop formal guidelines or standards for incorporating transit amenities in new development or redevelopment, as conditions of project approval.	Transit	2.9: Develop standards and guidelines for incorporating multimodal amenities in new development or redevelopment as part in local area plans

Connectivity	2.10 Provide public transit services at locations nearby school campuses.	Trails	2.10: Implement the Safe Routes to School program.
Connectivity	2.11: Coordinate public and private transit service, where feasible, to reduce costs of service and avoid service duplication.	Transit	2.11: Coordinate public and private transit service, where feasible, to reduce costs of service and avoid service duplication.
Connectivity		Transit	New Policy: Support, where feasible, the implementation of on-demand, dynamically routed transit shuttles.
Connectivity	2.12: Develop and maintain an Active Transportation Plan as part of the regional transportation plan. Include policies, a project list of existing and proposed bicycle and pedestrian facilities, and strategies for implementation in the Active Transportation Plan.	Trails	2.12: Develop and maintain an Active Transportation Plan as part of the regional transportation plan. Include policies, a project list of existing and proposed bicycle and pedestrian facilities, strategies, and programs for implementation of the Active Transportation Plan.
Connectivity	2.13: Incorporate programs and policies of the active transportation plan into regional and local land use plans and regulatory processes.	Trails	2.13: Incorporate programs and policies of the Active Transportation Plan into regional and local land use plans and regulatory processes.
Connectivity	2.14: Construct, upgrade, and maintain pedestrian and bicycle facilities consistent with the active transportation plan.	Trails	2.14: Construct, upgrade, and maintain pedestrian and bicycle facilities consistent with the Active Transportation Plan.
Connectivity	2.15: Accommodate the needs of all categories of travelers by designing and operating roads for safe, comfortable, and efficient travel for roadway users of all ages and abilities, such as pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles.	Community	2.15: Accommodate the needs of all categories of travelers by designing and operating roads for safe, comfortable, and efficient travel for roadway users of all ages and abilities, such as pedestrians, bicyclists, transit riders, motorists, commercial vehicles, and emergency vehicles.

Connectivity	2.16 Encourage parking management programs that incentivize non-auto modes and discourage private auto-mobile use at peak times in peak locations, alleviate circulating vehicle trips associated with parking availability, and minimize parking requirements through the use of shared-parking facilities while potentially providing funding that benefits infrastructure and services for transit, pedestrians, and bicyclists.	Community	2.16 Support parking management programs that incentivize non-auto modes and discourage private auto-mobile use at peak times in peak locations, alleviate circulating vehicle trips associated with parking availability.
Connectivity		Community	New Policy: Coordinate and maintain parking maximums and shared parking standards that support goals and policies of the Regional Plan.
Connectivity		Community	New Policy: Paid parking revenues should benefit infrastructure and services for transit, pedestrians, and bicyclists within the areas that funds are generated.
Connectivity	2.17: Coordinate and include in area plans, where applicable, intermodal transportation facilities (“Mobility Hubs”) that serve centers and other major areas of activity while encouraging the consolidation of off-street parking within mixed-use areas.	Community	2.17: Coordinate and include in area plans intermodal transportation facilities (“Mobility Hubs”) that serve major activity centers and connect transit, pedestrian, bicycle facilities, and car/ride share, and provide park and ride facilities, where appropriate.

Connectivity	2.18: In roadway improvements, construct, upgrade, and maintain active transportation and transit facilities along major travel routes. In constrained locations, all design options should be considered, including but not limited to restriping, roadway realignment, signalization, and purchase of right of way	Community	2.18: In roadway improvements, construct, upgrade, and maintain active transportation and transit facilities along major travel routes. In constrained locations, all design options should be considered, including but not limited to restriping, roadway realignment, signalization, and purchase of right of way
Connectivity	2.19: Encourage jurisdiction partners to develop and plan coordinated wayfinding signage for awareness of alternative transportation modes including transit (TART/BlueGO), pedestrian, and bicycle facilities.	Community	2.19: Encourage partners to develop and implement plans coordinating wayfinding and signage to build awareness of alternative transportation opportunities including transit, pedestrian, and bicycle facilities.
Safety	3.1: Coordinate the collection and analysis of safety data, identify areas of concern, and propose safety-related improvements that support state and federal safety programs and performance measures.	Technology	3.1: Coordinate the collection and analysis of safety data, identify areas of concern, and propose safety-related improvements and user awareness that support state and federal safety programs and performance measures.
Safety	3.2: Consider safety data and use proven safety design countermeasures for safety hotspots recommended from roadway safety audits, the active transportation plan, corridor plans, and other reliable sources when designing new or modifying existing travel corridors.	Community	3.2: Use proven safety design countermeasures for safety hotspots when designing new or modifying existing travel corridors consistent with the Lake Tahoe Region Safety Strategy.
Safety	3.3: Coordinate safety awareness programs that encourage law abiding behavior by all travelers.	Community	3.3: Coordinate safety awareness programs.

Safety	3.4: Support emergency preparedness and response planning, including the development of regional evacuation plans, and encourage appropriate agencies to use traffic incident management performance measures.	Community	3.4: Support emergency preparedness and response planning, including the development of regional evacuation plans.
Safety		Community	New Policy: Encourage appropriate agencies to use traffic incident management performance measures.
Safety	3.5: Design projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points. Consider increased safety signage, site distance, and other design features, as appropriate.	Trails	3.5: Design projects to maximize visibility at vehicular, bicycle, and pedestrian conflict points. Consider increased safety signage, site distance, and other design features, as appropriate.
Operations & Congestion Management	4.0: Prioritize regional and local investments that fulfill TRPA objectives in transit, active transportation, transportation demand management, and other programs and directly support identified TRPA transportation performance outcomes.	Community	4.0: Prioritize regional and local investments that fulfill TRPA objectives in transit, active transportation, transportation demand management, and other programs which support identified TRPA transportation performance outcomes.
		Community	New Policy: Enable growth of shared and on-demand shared ride mobility services (i.e., ride-, car-, and bike-sharing, e-hailing, etc.).
Operations & Congestion Management		Community	New Policy: Work to ensure that new transportation services and technologies utilize electric vehicles as feasible.
Operations & Congestion Management		Trails	New Policy: Coordinate policies across multiple partners that support the use of electric assisted, low-speed devices on paths and trails to serve travel needs in Tahoe

Operations & Congestion Management	4.1: Identify opportunities to implement comprehensive transportation solutions that include technology, safety, and other supporting elements when developing infrastructure projects.	Technology	4.1: Identify opportunities to implement comprehensive transportation solutions that include technology, safety, and other supporting elements when developing infrastructure projects.
Operations & Congestion Management	4.2: Collaborate with jurisdictions and DOT partners to develop adaptive management strategies for peak traffic periods at Basin entry/exit routes.	Technology	4.2: Collaborate with jurisdictions and state departments of transportation to adaptively manage roadways for peak travel periods.
Operations & Congestion Management	4.3: Promote awareness of travel options and conditions through advertising and real-time travel information.	Community	4.3: Promote awareness of travel options through outreach, education, and advertising, particularly in local schools.
Operations & Congestion Management		Transit	New Policy: Invest resources in marketing and outreach campaigns to promote the use of non-auto travel options.
Operations & Congestion Management	4.4 Incorporate programs and policies of the Tahoe Basin Intelligent Transportation Systems Strategic Plan into regional and local land use plans and regulatory processes.	Technology	4.4 Implement programs and policies of the Tahoe Basin Intelligent Transportation Systems Strategic Plan to support needed infrastructure to achieve regional transportation goals.
Operations & Congestion Management	4.5: Support the use of emerging technologies, such as the development and use of mobile device applications, to navigate the active transportation network and facilitate ridesharing, efficient parking, transit use, and transportation network companies.	Technology	4.5: Track and prepare for emerging transportation technologies.

Operations & Congestion Management	4.6 Level of service (LOS) criteria for the Region's highway system and signalized intersections during peak periods shall be: "C" on rural recreational/scenic roads; "D" on rural developed area roads; "D" on urban developed area roads; "D" for signalized intersections. Level of Service "E" may be acceptable during peak periods in urban areas, but not to exceed four hours per day. These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.	Community	4.6 Level of service (LOS) criteria for the Region's highway system and signalized intersections during peak periods shall be: "C" on rural recreational/scenic roads; "D" on rural developed area roads; "D" on urban developed area roads; "D" for signalized intersections. Level of Service "E" may be acceptable during peak periods in urban areas, but not to exceed four hours per day. These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.
Operations & Congestion Management	4.7: Regional transportation plan updates shall review projected travel into and within adopted area plans and effectiveness of mobility strategies.	n/a	Delete
Operations & Congestion Management	4.8: Prohibit the construction of roadways to freeway design standards in the Tahoe Region. Establish Tahoe specific traffic design volume for project development and analysis.	Community	4.8: Prohibit the construction of roadways to freeway design standards in the Tahoe Region. Establish Tahoe specific traffic design volume for project development and analysis.
Operations & Congestion Management	4.9: Require the development of traffic management plans for major temporary seasonal activities, including the coordination of simultaneously occurring events	Community	4.9: Require the development of traffic management plans for major temporary seasonal activities, including streetscape flexibility within urban centers, and the coordination of simultaneously occurring events

Operations & Congestion Management	4.10: Actively support Transportation Management Associations (TMAs) in the Tahoe Region.	Community	4.10: Expand and build capacity in Transportation Management Associations (TMAs) in the Tahoe Region to develop public-private partnerships that support transportation.
Operations & Congestion Management	4.11: Establish a uniform method of data collection for resident and visitor travel behavior	n/a	4.11: Establish a uniform method of data collection and forecasting for resident and visitor travel behavior and demographics
Operations & Congestion Management	4.12: Maintain monitoring programs for all modes that assess the effectiveness of the long-term implementation of local and regional mobility strategies on a publicly accessible reporting platform (e.g. www.laketahoeinfo.org website).	Technology	4.12: Maintain monitoring programs for all modes to assess the effectiveness of the long-term implementation of local and regional mobility strategies on a publicly accessible reporting platform (e.g. www.laketahoeinfo.org website).
Operations & Congestion Management	4.13: Establish regional and inter-regional cooperation and cost-sharing to obtain basin-wide data for transportation-related activities.	Technology	4.13: Establish regional and inter-regional cooperation and cost-sharing to obtain a uniform method of transportation data collection and sharing.
Operations & Congestion Management	4.14: Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible	Community	4.14: Design roadway corridors, including driveways, intersections, and scenic turnouts, to minimize impacts to regional traffic flow, transit, and bicycle and pedestrian facilities by using shared access points where feasible
Economic Vitality & Quality of Life	5.1: Encourage community revitalization and transit oriented development projects that comprehensively support regional and local transportation, housing, land use, environment, and other goals.	Community	5.1: Encourage community revitalization and transit oriented development projects that comprehensively support regional and local transportation, housing, land use, environment, and other goals.
Economic Vitality & Quality of Life		Transit	New Policy: Ensure access to public transit in identified Priority Communities

Economic Vitality & Quality of Life	5.2: Provide multimodal access to recreation sites. Encourage collaboration between public lands managers, departments of transportation, transit providers, and other regional partners to improve year-round access to dispersed recreation activities. Strategies could include active transportation end-of trip facilities, transit services, parking management programs, and incentives to use multi-modal transport.	Community	5.2: Encourage collaboration between public lands managers, departments of transportation, transit providers, and other regional partners to support sustainable recreation and multi-modal access to recreation sites.
Economic Vitality & Quality of Life	5.3: Collaborate with local, state, regional, federal, and private partners to develop a regional revenue source to fund Lake Tahoe transportation and water quality projects.	Community	5.3: Collaborate with local, state, regional, federal, and private partners to develop a regional revenue source to fund Lake Tahoe transportation investments.
Economic Vitality & Quality of Life	5.4: Collaborate with regional and inter-regional partners to establish efficient transportation connections within the Trans-Sierra Region including to and from Tahoe and surrounding metropolitan areas.	Transit	5.4: Collaborate with bi-state partners to establish efficient rail, air, and bus transportation connections to Tahoe within the Trans-Sierra Region, including to and from Tahoe and surrounding metropolitan areas.
System Preservation	6.1: Preserve the condition of sidewalks and bicycle facilities and where feasible, maintain their year-round use.	Trails	6.1: Preserve the condition of sidewalks and bicycle facilities and maintain, where feasible, for year-round use.
System Preservation		Transit	New Policy: Improve winter transit access by providing shelters, cleared sidewalks and paths around stops, winter accessible bike racks, and warm shelters at mobility hubs and major transit stops.
System Preservation	6.2: Maintain and preserve pavement condition to a level that supports the safety of the traveling public and protects water quality	Community	6.2: Maintain and preserve pavement condition to a level that supports the safety of the traveling public and protects water quality

System Preservation	6.3: Make “dig once” the basin-wide standard, requiring public and private roadway projects to accommodate the installation of conduit to support community needs. (e.g.: fiber optic)	Technology	6.3: Make “dig once” the basin-wide standard, requiring public and private roadway projects to accommodate the installation of conduit to support community needs. (e.g.: fiber optic)
System Preservation	6.4: Consider the increased vulnerability and risk to transportation infrastructure from climate stressors, such as increased precipitation, flooding, and drought when designing new infrastructure and repairing or maintaining existing infrastructure.	Community	6.4: Consider the increased vulnerability and risk to transportation infrastructure from climate change, such as increased flooding, drought, and wildfire risk, when designing new infrastructure and repairing or maintaining existing infrastructure.

Revised Policy Reasoning	Notes - mtg with Gavin
no change	
no change; added policy to augment this	
Implement greenhouse gas reduction strategies in alignment with federal, state, and regional requirements and goals	
restated for clarity and to better align with agency goals related to VMT	make sure second half about prioritizing projects isn't lost
restated for clarity and to reference the Tahoe-Truckee Plug-In Electric Vehicle Readiness Plan	
restated from action to policy	

Deleted. combined with policy 1.5
no change
revised to reference standards
retained original basin-wide focus while recognizing key components to congestion (peak period & entry/exit routes)
restated for clarity, to broaden the approach (funding for transportation alternatives not just transit), and to recognize private sector partners

restated to focus on policy and remove reference to operations, and to recognize one strategy may be to disperse peak travel to shoulder seasons

restated to recognize the need to coordinate within and outside the region.

New Policy: To recognize Truckee, Placer's RTTP, and the Carson/Minden Valley

Should we call out western slope too?

restated for clarity and to remove strategies and action items from the policy

Deleted: duplication of Policy 2.11

restated for clarity and to align with agency sustainability work and the shoreline plan; removed zero emission from the policy	
restated for clarity, to align with the coordinated human services transportation plan, and to remove strategies and action items from the policy; created two policies to cover intent of the original policy	
new policy to augment 2.7	
restated for clarity; split into two policies	
new policy to augment 2.8	
Restated to strenghten the policy	This is a good one - need to elevate

Restated to refine focus to the program itself

no change; added policy to augment this.

New Policy to augment policy 2.11

no change

no change

no change

no change

restated for clarity and to remove strategies and action items from the policy; split into three policies

new policy to augment 2.16

new policy to augment 2.16

restated for clarity and to remove parking management element, which is included in policy 2.16

no change

restated for clarity and to recognize and update partners

no change

restated for clarity and to strengthen policy

Should we add Safety Strategy into this policy?

restated for clarity

restated for clarity: split into two policies

new policy to augment 3.4

no change

no change; created supplemental policies

New policy to augment 4.0 that encourages shared mobility options.

new policy to augment 4.0.

new policy to augment 4.0 and recognize e-bike and e-scooter

no change
restated for clarity; peak traffic discussion better addressed in congestion management Policy 1.9
restated to strengthen policy; added policy to augment this.
new policy to augment policy 4.3
restated to strengthen and clarify policy and to remove jargon
restated for clarity and to remove strategies and action items from the policy thereby preparing for future transportation technologies

Need to replace with something else in the future. Want multi-modal driving design, not just the car. Should just leave as is for this RTP and assess for next

no change; seek advice for edits

deleted. Requirement of the RTP, does not need a separate policy

no change

restated to recognize need for special events in Main Street Management Area

restated to strengthen policy

restated to recognize the importance of data for forecasting

no change

restated for clarity and to incorporate relevant elements of Policy 4.13

no change

no change; added policy to augment this

new policy to augment 5.1

restated for clarity and to remove strategies and action items from the policy.

restated to to refine policy focus

Restated to strengthen policy by identifying transportation connections and to update language regarding regional cooperation.

restated for clarity; added policy to augment this

new policy to augment policy 6.1

no change

no change

no change

Add a policy about public engagement/collaboration?

Appendix B

2012 and 2017 RTP/SCS Mitigation Measures

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
3.2 Land Use			
Impact 3.2-1 Community Cohesion. The goals of the RTP are to improve mobility for all users; improve vehicle, pedestrian, and bicycle safety and connectivity; advance multi-modal transportation opportunities; improve the environmental quality of the area; enhance visitor and community experience; and promote the economic vitality of the area. These actions would enhance community cohesion. Some RTP projects, such as realignment of roadways, could relocate businesses and residents because of the need for right-of-way; however, they would not divide existing communities, reduce access, or change nearby land use patterns. Although relocation of some residences and business would be needed and temporary construction disruptions to businesses and landowners would occur, the overall character, quality, and identity of the Region's communities would not be adversely affected. Alternatives 2, 3, and 4 would result in a long-term **beneficial** impact to community cohesion because of substantial enhancement of mobility, connectivity, character, and identity. Alternatives 1 and 5 would be **less than significant**, because they involve a continuation of existing land use patterns and transportation improvement plans.	***Long Term:*** Alternatives 2, 3, and 4 – **Beneficial** ***Long Term:*** Alternatives 1 and 5 – **LTS**	No mitigation is required for any of the alternatives.	***Long Term:*** Alternatives 2, 3, and 4 – **Beneficial** ***Long Term:*** Alternatives 1 and 5 – **LTS**
Impact 3.2-2 Conflict with or Impede the Implementation of Existing Land Use Plans and Policies. The RTP/SCS consists of three components: the transportation goals, policies, and implementation measures from the Transportation Element of the Regional Plan Update; a land use strategy from among the Regional Plan Update alternatives; and a Transportation Strategy Package. While TMPO is responsible for adoption of the RTP/SCS, it does not have the authority to adopt local land use plans or approve local land use development; however, the approval of any RTP/SCS alternative would assume the subsequent adoption of the companion, Regional Plan Update land use alternative by TRPA. If TRPA adopts a land use	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
alternative that differs from the assumed option in the selected RTP/SCS alternative, TMPO will necessarily adjust the transportation strategies to be consistent with land use designations. Therefore, the RTP/SCS alternatives would not be in conflict with the Region's land use plan. Because the RTP would be consistent with the Regional Plan Update, and would not conflict with or impede the implementation of existing land use plans and policies designed to improve environmental conditions, the impact of Alternatives 1, 2, 3, 4, and 5 would be **less than significant.**			
3.3 Traffic and Transportation			
Impact 3.3-1 Roadway Segment Operations. Because implementation of any of the RTP/SCS alternatives would cause at least one roadway segment to degrade from an acceptable to an unacceptable level, and/or substantially degrade the LOS of a roadway segment that is already operating at unacceptable levels, all Alternatives (1, 2, 3, 4, and 5), would result in a **significant** impact on roadway operations. Alternatives 1and 2 would each result in a **significant** impact to four study roadways. Alternative 3 would result in a **significant** impact to two study roadways. Alternative 4 would result in a **significant** impact to nine study roadways. Alternative 5 would result in **significant** impacts to ten study roadways.	Alternatives 1, 2, 3, 4, and 5 - **S**	**Mitigation Measure 3.3-1. Phased Release of Allocations/LOS Monitoring/Travel Demand Management.** The level of service standard under evaluation for Impact 3.3-1 is oriented toward alleviating congestion for vehicles during the peak hour of peak travel times in the Region. The Compact directs TRPA to focus transportation improvements on transit investments and enhancements to non-auto modes, rather than new roadway capacity. Therefore, the mitigations below seek to first provide additional travel capacity in the form of bicycle, pedestrian, and transit improvements, with an ongoing monitoring program. New roadway improvements beyond those already listed in the RTP are proposed if other measures are not able to meet community needs during peak travel times. TRPA will develop and implement a program for the phased release of land use allocations in four-year cycles in conjunction with future updates of the Regional Plan and RTP. Two years after each release, monitoring of existing and near-term LOS will occur at intersections and roadways to evaluate compliance with applicable LOS policies. Should LOS projections indicate that applicable LOS goals and policies will not be met, actions will be undertaken through TRPA approved plans, project-permitting, or projects/programs developed in coordination	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		with local or other governments to maintain compliance. Actions may include, but are not limited to the following: 1. TRPA will prioritize, and cause to be implemented, if feasible, enhanced non-motorized and public transportation projects and services to accommodate the additional travel demand. 2. TRPA will modify the land use allocation releases to reduce travel demand. 3. To the extent that roadway capacity expansions do not result in significant, unavoidable environmental impacts, TRPA will investigate and cause to be implemented, if feasible, additional multi-modal corridor improvements (beyond those listed in the RTP project list). The following is an example list of potential candidate improvements based on the identified significant impacts of the RTP/SCS alternatives: — US 50 between the South Y and South Stateline – modify US 50 to consist of enhanced access control (e.g., raised median with channelized turn lanes at selected locations, driveway consolidation to limit turning locations on the highway, etc.), to the extent that planned traffic signal coordination does not provide sufficient capacity increases. — US 50 between SR 89 and Pioneer Trail – modify US 50 to consist of enhanced access control (e.g., raised median with channelized turn lanes, driveway consolidation, etc.) to increase the capacity of the highway.	
Impact 3.3-2 Intersection Operations. Alternatives 1, 2, 3, 4, and 5 would cause some degradation of intersection operations, but not to unacceptable (i.e., LOS E in rural areas, and LOS E for more than four hours or LOS F in urban areas) levels. For all alternatives, impacts to intersection operations would be **less than significant.**	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.3-3 Vehicle Miles of Travel (VMT) per Capita. VMT per capita is a measure of the efficiency of the transportation system and the degree to which the land use pattern would reduce personal motor vehicle travel. For the Tahoe Region, VMT per capita may be influenced by a number of variables, including land use pattern, emphasis on personal motor vehicle travel compared to other travel modes, and implementation of vehicle trip reduction strategies. When VMT per capita increases, it results in indirect environmental impacts (such as air pollutant emissions). VMT per capita would increase for all alternatives, except Alternatives 2 and 3. For Alternatives 2 and 3, reduced VMT per capita would be **beneficial**. For Alternatives 1, 4, and 5, the increased VMT per capita would be a **significant** adverse impact.	Alternatives 2 and 3 – **Beneficial** Alternatives 1, 4, and 5 - **S**	No mitigation is required for Alternatives 2 and 3. **Mitigation Measure 3.3-2. Reduce VMT per capita.** For Alternatives 1, 4, and 5, reducing or eliminating the increase in VMT per capita would require adopting additional components of trip-reducing land use pattern and non-motor vehicle travel mode opportunities. A comprehensive review of potential VMT reducing strategies has been conducted in the formulation of the RTP alternatives, so other feasible mitigation approaches different from the strategies already incorporated into the RTP alternatives are not known. Consequently, avoidance of significant increases in VMT per capita for Alternatives 1, 4, and 5 would need to involve adoption of additional elements of the package of land use and transportation strategies in Alternatives 2 and 3. Otherwise, the VMT increases associated with Alternatives 1, 4, and 5 would be significant and unavoidable.	Alternatives 2 and 3 – **B** Alternatives 1, 4, and 5 - **SU**
Impact 3.3-4 Transit Service. Transit service enhancements are included in all five RTP alternatives. Alternatives 1 and 5 would implement transit improvements contained in Transportation Strategy Package A, including the Lake Tahoe Waterborne Transit Project and operation and maintenance of the existing transit system. Alternatives 2 through 4 would implement Transportation Strategy Packages B and C, which include substantial transit improvements (including transit projects, programs, and efficiency strategies) that are expected to not only meet new demand, but offer substantial service improvements beyond those that exist today. Therefore, transit service impacts under all alternatives would be **beneficial**.	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.3-5 Bicycle and Pedestrian Safety. All RTP/SCS alternatives would enhance pedestrian and bicycle safety. Pedestrian and bicycle facility improvements are included in all five RTP alternatives. Alternatives 1 and 5 would implement several pedestrian and bicycle improvements contained in Transportation Strategy Package A. Alternatives 2 through 4 would implement Transportation Strategy Packages B and C, which include substantial pedestrian and bicycle facility improvements that are expected to not only meet new demand, but offer substantial improvements beyond those that exist today. Facility improvements offer opportunities to separate pedestrian and bicycle travel from roadway travel lanes (such as separated trails or striped, designated lanes), thus reducing the potential for conflicts. Therefore, pedestrian and bicycle safety impacts under all alternatives would be **beneficial**.	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**
3.4 Air Quality			
Impact 3.4-1 Consistency with Air Quality Plans and Transportation Conformity. The proposed RTP/SCS would not conflict with or obstruct implementation of any applicable air quality-related plans. All of the alternatives would meet federal air quality conformity requirements. This impact would be **less than significant** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.4-2 Short-Term Construction Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. Implementation of the transportation projects would involve construction that would result in the temporary generation of ROG, NO_X, PM_{10} and $PM_{2.5}$ emissions from site preparation (e.g., excavation, grading, and clearing); off-road equipment, material import/export, worker commute exhaust emissions, paving, and other miscellaneous activities. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks. Construction emissions of these pollutants have the potential to be substantial, and	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.4-2: Reduce Temporary Construction Emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$.** Within 12 months of adoption of an updated Regional Plan, TRPA will coordinate with local governments to develop and effectuate the implementation of Best Construction Practices for Construction Emissions that require, as a condition of project approval, implementation of feasible measures and Best Management Practices to reduce construction-generated emissions to the extent feasible. Until that time, TRPA will continue existing practice to require measures developed on a project-specific basis. Such measures shall include those listed below to the	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
would result in a **potentially significant** impact to air quality for Alternatives 1, 2, 3, 4, and 5.		extent they are not already addressed in local requirements. In addition to the mitigation measures identified below, construction of the projects located in California will be required to comply with all applicable PCAPCD or EDCAQMD rules, as appropriate, including Rule 202 (PCAPCD and EDCAQMD) regarding visible emissions, Rule 228 (PCAPCD) and 223 (EDCAQMD) regarding fugitive dust, Rule 218 (PCAPCD) and 215 (EDCAQMD) regarding the application of architectural coatings, and Rule 217(PCAPCD) and 224 (EDCAQMD) regarding cutback and emulsified asphalt paving materials. For projects located in Washoe County, projects will comply with Washoe County Health District Rules Governing Air Quality, including 040.005 Visible Emissions, 040.030 Dust Control, 040.090 Cutback Asphalts, and 040.200 Diesel Engine Idling. Where local rules and regulations pertaining to construction emissions exist, projects developed pursuant to the Regional Plan shall comply with local requirements. For projects located in California, specifically, TRPA will require the following: 〉 Project proponents shall submit to the PCAPCD or EDCAQMD, as applicable, and receive approval of, a Construction Emission/Dust Control Plan prior to any groundbreaking or tree removal activities. 〉 Prime contractors shall submit to the PCAPCD or EDCAPCD, as applicable, a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used an aggregate of 40 or more hours for the construction project. The project representative shall provide the PCAPCD or EDCAQMD, as applicable, with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		The project representative shall provide a plan for approval by the PCAPCD or EDCAQMD, as applicable, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average of 20 percent NOX reduction and 45 percent particulate reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. 〉 As a condition of approval of California transportation projects, TRPA will require individual project environmental review to confirm and demonstrate that project-generated emissions associated with construction will be within the regulatory limits of PCAPCD or EDCAQMD, as applicable, following implementation of mitigation measures. For all projects implementing the RTP/SCS, TRPA will require the following: 〉 Fugitive dust shall not exceed 40 percent opacity and not go beyond the property boundary at any time during project construction. 〉 No open burning of removed vegetation shall occur during infrastructure improvements. 〉 Minimize idling time to 5 minutes for all diesel-power equipment. 〉 Apply water to control dust as needed to prevent dust impacts offsite. Operational water truck(s) shall be onsite, as required, to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		or tracked off-site. 〉 Apply approved chemical soil stabilizers, vegetative mats, or other appropriate Best Management Practices to manufacturer's specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours). Spread soil binders on unpaved roads and employee/equipment parking areas and wet broom or wash streets if silt is carried over to adjacent public thoroughfares. 〉 Use existing power sources (e.g., power poles) or clean-fuel generators rather than temporary diesel power generators, wherever feasible.	
Impact 3.4-3 Long-Term Operational Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. Long-Term Operational Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$. Mobile-source operational emissions of criteria air pollutants would be reduced over the plan implementation period under Alternatives 1 through 5. Implementation of the RTP/SCS would contribute to attainment and maintenance of air quality standards in the LTAB for ozone and PM_{10}, two pollutants for which the LTAB is currently in nonattainment. This would be a **less-than-significant** impact.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.4-4 Long-Term Operational Localized Exposure to Mobile-Source Carbon Monoxide Emissions. Long-term operational (local) mobile-source CO emissions under Alternatives 1 through 5 would not violate an air quality standard (i.e., 1-hour CAAQS of 20 ppm, 8-hour TRPA standard of 6 ppm), contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. This would be a **less-than-significant** impact for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.4-5 Exposure to Toxic Air Contaminant (TAC) Emissions. Because the proposed RTP/SCS does not involve siting of sensitive receptors or siting of any new stationary sources of TAC emissions, it would not result in exposure of sensitive receptors to substantial TAC concentrations. In addition, long-term, mobile-source diesel PM would decline over the plan implementation period compared to existing conditions, because of more stringent motor vehicle emissions standards. However, construction emissions may occur in proximity to sensitive receptors and may result in temporary exposure of receptors to substantial TAC concentrations in Alternatives 1 through 5. Long-term exposure of sensitive receptors in the Region to TACs would be **less than significant** for all alternatives. Short-term TAC exposure would be **potentially significant** for construction related to projects listed in all alternatives.	***Long Term:*** Alternatives 1, 2, 3, 4, and 5 – **LTS** ***Short Term:*** Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.4-5: Minimize Exposure of Sensitive Receptors to TAC Emissions during Construction.** To reduce exposure of sensitive receptors to construction-related TAC emissions, TRPA will implement Mitigation Measure 3.4-2 for all alternatives, "Reduce Temporary Construction Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$." This measure includes emissions control strategies for construction equipment that would also reduce diesel PM emissions, including limiting idling time to five minutes maximum and submitting an inventory of construction equipment to PCAPCD or EDCAQMD to demonstrate that emissions from the construction fleet would be better than statewide averages. In addition, for all alternatives, TRPA will require contractors to implement the following measures for all projects constructed pursuant to the RTP/SCS: 〉 Equip heavy-duty construction equipment with diesel particulate traps. 〉 Locate construction staging areas as far away as possible on the project site from off-site receptors. 〉 As a condition of approval, individual project environmental review shall demonstrate that current district-recommended BMPs are implemented to ensure sensitive receptors are not exposed to substantial TAC concentrations. Mitigation Measure 3.4-2 includes the opportunity to implement measures developed as part of the Best Construction Practices Policy for Construction Emissions. For projects that are permitted prior to the completion of the Best Construction Practices, TRPA will require the specific strategies listed in Mitigation Measure 3.4-2 for project approval to the extent they are not already addressed in applicable local requirements.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.4-6 Exposure to Excessive Odorous Emissions. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Neither project construction nor operation would create objectionable odors affecting a substantial number of people. This impact would be **less than significant** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.4-7 Atmospheric Deposition. Results of NO_X emissions modeling, in the case of all alternatives, demonstrate that mobile-source NO_X emissions would decline substantially between 2010 and 2035. The Proposed Plan would be consistent with performance standards for atmospheric nitrogen deposition and would promote attainment of threshold standards for atmospheric deposition. This impact would be **less than significant** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
3.5 Greenhouse Gas Emissions and Climate Change			
Impact 3.5-1 Increase in GHG Emissions. Implementation of any of the RTP alternatives would occur in conjunction with land use development and population growth anticipated during the plan horizon. Although the RTP strategies would improve the efficiency of transportation-related GHG emissions by increasing transit and non-motor vehicle travel, the combined influence of transportation projects, land use development, and population growth occurring during the RTP plan horizon would result in a substantial increase in overall GHG emissions (in contrast to GHG per capita) that would make a **cumulatively considerable** contribution to the significant cumulative impact of global climate change. Among the RTP alternatives, Alternative 5 would result in the largest increase	Alternatives 1, 2, 3, 4, and 5 – **S**	**Mitigation Measure 3.5-1: Minimize Construction-Related GHG Emissions.** For all the alternatives, GHG emissions from construction will be reduced to the maximum extent feasible. During construction of transportation infrastructure projects, TRPA will require the following mitigation measures to reduce GHG emissions. Other measures that are as effective may be substituted depending on the emissions control technology available at the time of project construction. 〉 Limit equipment idling time to a maximum of five (5) minutes. 〉 Recycle or reuse construction waste and demolition material to the maximum extent feasible.	Alternatives 1, 2, 3, 4, and 5 – **SU**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
in GHG emissions, followed by Alternatives 4, 2, 3, and 1. Alternative 3 would result in the most GHG-efficient transportation system; however, increased GHG emissions would be a **significant** impact for Alternatives 1, 2, 3, 4, and 5.		〉 Use electrified or alternative-fueled construction equipment to the maximum extent feasible. Use local and sustainable building materials to the extent possible. TRPA is considering the implementation of a Best Construction Practices Policy to maintain a range of potential construction-period environmental impacts at less-than-significant levels, including GHG emission impacts. When the Best Construction Practices Policy is completed and adopted, the applicable requirements listed in the adopted policy may be implemented in lieu of the actions listed above.	
Impact 3.5-2 Consistency with SB 375 targets and AB 32 goals for the California portion of the Region. RTP Alternatives 1, 4, and 5 would meet TMPO's ARB-issued SB 375 GHG-reduction target for 2020, but not for 2035. Alternatives 2 and 3 would meet both the 2020 and 2035 SB 375 GHG-reduction targets and would be the only RTP alternatives that would meet the requirements of an SCS and comply with SB 375 requirements. Consequently, Alternatives 1, 4, and 5 would not meet the criteria of an SCS and would not comply with SB 375 requirements and would not be consistent with California legislation adopted for the purposes of reducing GHG emissions. Therefore, implementation of Alternatives 1, 4, and 5 would result in a **significant** impact, because they would not help achieve GHG-reduction goals established by California intended to help address future climate change. Implementation of Alternatives 2 or 3 would be consistent with both AB 32 and SB 375 goals for GHG reduction, so impacts of Alternatives 2 and 3 would be **less than significant**.	Alternatives 1, 4, and 5 – **S** Alternatives 2 and 3 – **LTS**	**Mitigation Measure 3.5-2: Prepare an Alternative Planning Strategy in Accordance with SB 375.** If Alternative 1, 4, or 5 is selected for implementation, TMPO will prepare an Alternative Planning Strategy (APS) that demonstrates how the regional SB 375 GHG-reduction targets for the California portion of the Region would be achieved, in accordance with California SB 375. The APS will include strategies for bringing the alternative into compliance, such as additional transportation projects, development right transfer incentives, a compact land use pattern, reduced allocations, and energy efficiency measures that would result in achievement of SB 375 targets.	Alternatives 1, 2, 3, 4, and 5 – **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
3.6 Noise			
Impact 3.6-1 Short-Term Construction Noise Levels. Development under each of the five alternatives of the RTP/SCS would involve construction activity that could potentially expose nearby noise-sensitive receptors to noise levels that exceed TRPA's applicable CNEL standards for affected land uses; expose noise-sensitive receptors to noise levels that exceed applicable noise standards established by the general plan or noise ordinance of the local city or county; and/or result in a noticeable increase (i.e., 3 dBA or greater) in ambient noise levels at noise-sensitive land uses during the more noise-sensitive early morning, evening, and nighttime periods of the day that are not exempt by TRPA (i.e., 8:00 a.m. to 6:30 p.m., daily [TRPA Code Section 68.9]) or the local city or county noise ordinance. This would be a **significant** impact for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **S**	**Mitigation Measure 3.6-1: Reduce Exposure to Construction Noise.** Where local rules and regulations exist, project-related construction activity will comply with local requirements. In addition to local requirements, TRPA will develop and implement a Best Construction Practices Policy for the Minimization of Exposure to Construction-Generated Noise and Ground Vibration. The policy will require implementation of measures for the reduction of noise generated by demolition and construction activity in the Region. TRPA will require, as conditions of project approval, all applicable control measures identified by the policy. Measures for reducing exposure to construction-related noise may include, but are not limited to, the following: 〉 All construction equipment shall be equipped with properly operating mufflers and engine shrouds, in accordance with manufacturers' specifications. 〉 Equipment engine doors shall be kept closed during equipment operation. 〉 Inactive construction equipment shall not be left idling for prolonged periods of time (i.e., more than 5 minutes). 〉 Stationary equipment (e.g., power generators) and staging area for other equipment shall be located at the maximum distance feasible from nearby noise-sensitive receptors. 〉 Temporary sound walls shall be installed along the boundaries of the construction site to protect nearby noise-sensitive receptors, where feasible and applicable. 〉 Trucks hauling materials and goods to and from the construction site shall only do so during active construction periods.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		〉 All construction and demolition activity using heavy-duty, off-road equipment shall be performed during the daytime hours between 8:00 a.m. and 6:30 p.m., which is the time period exempt from TRPA noise standards by TRPA Code Section 68.9, and during any daytime hours that are exempt from the noise standards of the local jurisdiction (e.g., Placer County, El Dorado County, Douglas County, City of South Lake Tahoe). Noise-generating construction activity may occur during other times of the day if a site-specific, project-specific, technically adequate noise analysis determines that the resultant noise levels would not exceed TRPA noise standards or any applicable standards established by the local jurisdiction. For projects that are permitted prior to the completion of the Best Construction Practices Policy for the Minimization of Exposure Construction-Generated Noise and Ground Vibration, TRPA will require the mitigation measures listed above for project approval to the extent they are not already addressed in applicable local requirements.	
Impact 3.6-2 Ground Vibration. Implementation of the proposed RTP/SCS alternatives would include construction activities that could expose nearby buildings, structures, and people to excessive levels of ground vibration. This would be a **significant** impact for all alternatives	Alternatives 1, 2, 3, 4, and 5 – **S**	**Mitigation Measure 3.6-2: Reduce Exposure to Construction-Generated Ground Vibration.** The Best Construction Practices Policy for the Minimization of Exposure to Construction-Generated Noise and Ground Vibration, which is required by Mitigation Measure 3.6-2, will also include measures to address vibration generated during construction and demolition activity. TRPA's Best Construction Practices Policy may include required setback distances for various types of construction equipment that generate ground vibration, as well as criteria for conducting site-specific studies where these setback distances cannot be maintained. Measures required by the policy to minimize exposure to ground vibration may include, but are not limited to, the following:	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		Where local rules and regulations exist regarding ground vibration, projects will comply with local requirements. In addition to local requirements, TRPA will require proponents of transportation projects to implement the following mitigation measures during construction, to the extent they are not already addressed in applicable local requirements: 〉 Sonic pile driving shall be performed instead of impact pile driving, wherever feasible; 〉 To further reduce pile-driving ground vibration impacts, holes shall be predrilled to the maximum feasible depth to reduce the number of blows required to seat the pile; 〉 All construction equipment on construction sites shall be operated as far away from vibration-sensitive sites as reasonably possible; 〉 Earthmoving and ground-impacting operations shall be phased so as not to occur simultaneously in areas close to off-site sensitive receptors, to the extent feasible. The total vibration level produced could be significantly less when each vibration source is operated at separate times; 〉 No construction or demolition activity shall be performed that would expose an existing structure to levels of ground vibration that exceeds 0.20 in/sec PPV. The vibration control program shall include minimum setback requirements for different types of ground vibration-producing activities (e.g., pile driving, blasting) for the purpose of preventing damage to nearby structures. Established setback requirements can be breached if a project-specific, site specific analysis is conducted by a qualified geotechnical engineer or ground vibration specialist that indicates that no structural damage would occur at nearby buildings or structures.	

able S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		〉 No construction or demolition activity shall be performed that would expose human activity in an existing building to levels of ground vibration that exceed FTA's 80 VdB standard. The vibration control program shall also include minimum setback requirements for different types of ground vibration-producing activities (e.g., pile driving, blasting) for the purpose of preventing negative human response. Established setback requirements can be breached only if a project-specific, site-specific, technically adequate ground vibration study indicates that the buildings would not be exposed to ground vibration levels in excess of 80 VdB, and ground vibration measurements performed during the construction activity confirm that the buildings are not being exposed to levels in excess of 80 VdB; or at least two weeks' advanced notice is provided to owners and renters of residential buildings that would be exposed to ground vibration levels within the applicable setback distance; and hotel accommodations are offered to inhabitants of residences within the applicable setback distance at the expense of the project applicant. TRPA will only approve projects that would comply with the requirements of the Best Construction Practices Policy for the Minimization of Exposure to Construction-Generated Noise and Ground Vibration. For projects that are permitted prior to the completion of the Best Construction Practices Policy, TRPA will require the mitigation measures listed above for project approval to the extent they are not already addressed in applicable local requirements.	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.6-3 Long-Term, Operational, Transit-Related Noise Levels. Implementation of the proposed RTP/SCS alternatives would include new bike trails and pedestrian improvements, expanded transit services, new waterborne transit infrastructure and service, and/or potentially new park-and-ride lots to support vanpools and inter-regional transit shuttles. However, it is not anticipated that noise associated with the operation of these activities would expose noise-sensitive receptors to excessive noise levels that would exceed applicable standards. This would be a **less-than-significant** impact.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.6-4 Long-Term Traffic Noise Levels along Existing Roadway Alignments. Each of the RTP/SCS alternatives would include a particular transportation strategy package and reflects different numbers and types of new allocations for development authorized by TRPA that could be constructed over the planning horizon of the RTP/SCS. Different policies and redevelopment incentives proposed under each of the alternatives would influence the rate and location of new development, the modes of transportation that would serve the Region, and ultimately the increase in new vehicle trips on highways. Traffic modeling was conducted for each alternative that projected ADTs for road segments in the Region, which were used as inputs to the traffic noise model. Long-term traffic noise levels under any of the five SCS/RTP alternatives could exceed threshold standards established by TRPA for different land use categories and highway corridors; and/or result in a long-term noise level increase in an area where the applicable TRPA threshold standard is already exceeded. This would be a **significant** impact.	Alternatives 1, 2, 3, 4, and 5 – **S**	**Mitigation Measure 3.6-4: Reduce Highway Traffic Noise Levels.** TRPA will develop and effectuate the implementation of a traffic noise reduction program in coordination with local governments to attain traffic noise levels along highways in the Region where they currently exceed applicable TRPA standards and to maintain traffic noise levels along highways in the Region where they currently do not exceed TRPA standards. Until that time, TRPA will continue its existing practice of requiring measures to be developed on a project-specific basis. Measures may include those required as conditions of approval for development projects and those to be implemented by TRPA to address cumulative, regional noise levels. Traffic noise mitigation measures will be implemented through local government and/or TRPA permitting activities. When the traffic noise reduction program is adopted and implemented, the applicable requirements listed in the adopted policy may be implemented in lieu of the actions listed below. Where local rules and regulations exist, projects will comply with local requirements regarding the exposure of pre-existing noise-sensitive receptors to traffic noise levels. Generally, standards established by local jurisdictions in the Region are less stringent (i.e., higher) than TRPA-established noise standards. In addition to local requirements, TRPA will require	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		proponents of land use development projects to implement the following mitigation measures, where feasible, and to the extent they are not already addressed in applicable local requirements, to protect both on- and off-site noise-sensitive receptors: 〉 Construction/use of barriers, berms, and/or acoustical shielding (reductions of 3 dB to 5 dB)—Any barriers shall blend into the overall landscape and have an aesthetically pleasing appearance that agrees with the color and rural character of the general area, and not become the dominant visual element of the community. Relocation of existing vegetation and/or landscaping may also be necessary to achieve an aesthetically pleasing appearance; 〉 Replacing driveways that provide access from highways to individual buildings with a common access way that routes ingress and egress traffic to nearby intersections in order to reduce the number of gaps in barriers and berms (reductions site-specific); 〉 Planting of dense vegetation in key locations where noise absorption is needed (reductions site-specific); 〉 Utilizing noise-reducing pavement, including repaving existing roadways with noise-reducing pavement (reductions of 2-5dB)—All pavement must be suitable for the Tahoe climate and snow removal needs; 〉 Reducing speed limits and/or implementing traffic-calming measures that slow travel speeds, if feasible and practical (reductions of 1-2 dB); 〉 Realigning segments of the highway to reduce noise-sensitive areas to exposure of traffic noise from that highway segment (reductions site-specific); 〉 Funding the acquisition of additional right-of-way adjacent to the particular roadway segments to	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		remove existing noise-sensitive receptors, including existing residences (reductions site-specific); 〉 Funding acoustical treatment of buildings (reductions of 3-5 dB); and/or 〉 Any measures that would, based on substantial evidence, reduce the number of vehicle trips associated with project operations, such as an employee carpool or vanpool program, shuttle bus service for residents or tourists, parking fees, and bicycle amenities. Prior to adoption of the traffic noise reduction program, TRPA will continue to evaluate individual projects at the project level and enforce its CNEL standards on a project-by–project basis pursuant to the noise limitations in Chapter 68 of the TRPA Code. For projects that do not require environmental documentation beyond a checklist, TRPA may apply general noise reduction measures in the twelve months preceeding adoption of the Region-wide traffic noise reduction plan.	
Impact 3.6-5 Long-Term Traffic Noise Levels along Realigned Roadways. Projects involving the realignment of existing roadways would relocate traffic and attendant noise to locations that were previously more quiet and to where future traffic noise levels could exceed the CNEL standards established by the applicable Community Plan and/or PASs and/or local jurisdictions. This would be a **significant** impact.	Alternatives 1, 2, 3, 4, and 5 – **S**	**Mitigation Measure 3.6-5: Reduce Traffic Noise Levels Along Realigned Roadways.** TRPA will require the project proponents of roadway realignment projects to perform detailed noise studies for their respective projects, including the State Route 89/Fanny Bridge Community Revitalization Project and/or the US 50 South Shore Community Revitalization Project, if the selected alternative results in the location of the highway alignment closer to noise sensitive land uses. Each study will account for site-specific and project-level details not available at this time (e.g., selection of preferred alternative, precise routing of the new or revised alignment, changes in grade, pavement type, travel speed, roadway dimensions [lane widths, median size], and surrounding land coverage). Each project-	Alternatives 1, 2, 3, 4, and 5 – **LTSP**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		specific study will determine whether applicable TRPA noise standards would be exceeded, including the applicable CNEL standards established by the local Community Plan or PASs, and whether noise-sensitive receptors would be exposed to noise levels that exceed local city or county noise standards. Project-level studies and all necessary mitigation for each roadway alignment will be funded by the agency or agencies responsible for the project implementation. Sufficient measures will be implemented to ensure that CNEL standards established by the applicable Community Plan and PASs would not be exceeded, including in those areas located outside the corridor in which TRPA's highway-specific CNEL standards apply (i.e., 55 CNEL for SR 89 and 65 CNEL for US 50 within 300 feet of the road edge), and also to ensure that traffic noise levels that would expose noise-sensitive receptors to levels that exceed applicable standards of local jurisdictions would be reduced to the extent necessary (levels below the applicable CNEL standard). TRPA will not approve any roadway realignment that would cause traffic noise levels to exceed a threshold standard designated by TRPA for any land use category, including the CNEL standards designated for different land use types by Community Plans and PASs. In addition, TRPA will not approve any roadway realignment that would result in a long-term noise level increase, of any magnitude, in an area where the applicable TRPA threshold standard is already exceeded. Similarly, the local city or county will not approve any roadway realignment project that would expose noise-sensitive receptors to noise levels that exceed its applicable standards after implementation of all feasible mitigation. Such mitigation may include, but will not necessarily be limited to the following: 〉 Refinement of the roadway realignment design to minimize the area affected by increased noise levels that exceed applicable Community Plan or PAS	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		standards and to minimize traffic noise levels where they expose noise-sensitive receptors to levels that exceed local noise standards; 〉 Revision to the Community Plan/PAS/community center boundaries to encompass realigned roadways and modify the TRPA-designated CNEL standards within community centers to allow for higher noise levels, consistent with the goal of creating compact, higher intensity land uses in the centers; 〉 Revision to the applicable Community Plans and PASs so that they specify that the CNEL standards for the realigned highways, which override the Community Plan- and PAS-established land-use based CNEL standards in areas within 300 feet from the roadway edge, also apply to the corridors of all realigned highways inside the respective planning areas; 〉 Expansion of the highway corridor that is exempt from TRPA-established CNEL standards for nearby land uses; 〉 Acquisition of additional right-of-way adjacent to the realigned roadways to remove existing noise-sensitive receptors, including existing residences. 〉 Construction of noise barriers, berms, walls, and/or acoustical shielding to reduce traffic noise levels along the new alignments. Any barriers shall blend into the overall landscape and have an aesthetically pleasing appearance that agrees with the color and rural character of the general area, and not become the dominant visual element of the community. Relocation of existing vegetation and/or landscaping may also be necessary to achieve an aesthetically pleasing appearance; 〉 Replacement of driveways that provide access from highways to individual buildings with a common access	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		way that routes ingress and egress traffic to nearby intersections in order to reduce the number of gaps in barriers and berms; 〉 Planting of dense vegetation in key locations where noise absorption is needed; 〉 Use of noise-reducing pavement, including repaving existing roadways with noise-reducing pavement—all pavement must be suitable for the Tahoe climate and snow removal needs; 〉 Reduction of speed limits and/or implementing traffic-calming measures that slow travel speeds, if feasible and practical; 〉 Implementation of programs to pay for noise mitigation such as low-cost loans to owners of noise-impacted property or establishment of developer fees; 〉 Acoustical treatment of buildings; and 〉 Additional measures that would, based on substantial evidence, reduce the number of vehicle trips associated with project operations, such as an employee carpool or vanpool program, shuttle bus service for residents or tourists, parking fees, and bicycle amenities.	
3.7 Geology, Soils, Land Capability, and Coverage			
Impact 3.7-1 Site Topography, Grading, and Soil Erosion. Implementation of the RTP/SCS could expose soils and SEZs to adverse effects from erosion during construction activities related to roadway, bikeway, and trail enhancements. However, grading and earthmoving activities within the Region would be required to obtain grading and excavation permits and approvals in accordance with TRPA Code Chapter 33 and local jurisdictions. Adherence to existing regulations and permit requirements would reduce the potential for substantial soil	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
erosion or loss of topsoil for all alternatives (Alternatives 1, 2, 3, 4, and 5). Therefore, this impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.			
Impact 3.7-2 Seismic hazards. Projects proposed under the RTP could increase risk of injury or property damage from strong ground shaking or seismic-related ground failure caused by unstable soils. Projects implemented as part of the RTP would be designed and constructed in accordance with the current design requirements of Uniform Building Code (UBC) Seismic Zone 3 and local jurisdiction seismic standards, if applicable. In addition, projects would be required to implement seismic design recommendations contained in project-specific geotechnical reports as identified in the TRPA Code of Ordinances. Therefore, there would be no substantial increased risk of injury or property damage from strong ground shaking or seismic-related ground failure. This would be a **less-than-significant** impact for all RTP alternatives (Alternatives 1, 2, 3, 4, and 5).	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.7-3 Other Geologic Hazards. Projects proposed under the RTP have the potential to be constructed on or through soils or geologic formations susceptible to lateral spreading, subsidence, or collapse, thereby increasing the risk to people and facilities. Projects implemented as part of the RTP would be assessed on a project specific basis and would be required to conform to existing regional and local regulations and standards of design, grading, and construction practices to avoid or reduce hazards associated with other geologic hazards. Therefore, for all RTP/SCS alternatives (Alternatives 1, 2, 3, 4, and 5) there would be no substantial increased risk to people and infrastructure from other geologic hazards. This would be a **less-than-significant** impact for all alternatives (1, 2, 3, 4, and 5).	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.7-4 Land Coverage. Implementation of the RTP/SCS would result in removing, relocating, and adding coverage within the Region, potentially resulting in increased coverage. All transportation projects included in the RTP/SCS that result in additional coverage would either be Linear Public Service Facilities; limited to the percent coverage allowed for each LCD set forth in TRPA Code of Ordinances Chapter 30; or required to compensate for added coverage in excess of the base allowable by identifying, purchasing, and transferring coverage from offsite parcels in accordance with TRPA Code of Ordinances Chapter 30. As a result, any increase in the total coverage in the Region would be avoided, compensated, or minimized (for Linear Public Services Facilities), and would be consistent with the Code. Therefore, for all RTP alternatives (Alternatives 1, 2, 3, 4, and 5), the impact to total coverage in the Region would be **less than significant**.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
3.8 Hydrology and Water Quality			
Impact 3.8-1 Water quality issues related to construction. All five alternatives would result in construction of new transportation projects. Soil disturbance associated with construction activities could cause accelerated soil erosion and sedimentation or the release of other pollutants to nearby water bodies. Potential short-term impacts from construction activities in the Tahoe Region are avoided or minimized through stringent existing state, federal, local, and TRPA regulations, which require the implementation and maintenance of temporary BMPs to protect water quality during construction. Any new transportation projects implemented with associated stormwater systems under the five alternatives would also be required to comply with their respective jurisdiction NPDES permit and integrate low-impact development techniques and onsite filtration of stormwater. Projects with the potential to release hydrocarbons would also be required to implement pre-treatment measures for their	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
removal prior to infiltration. Because construction of all projects included in the RTP/SCS alternatives would be required to conform to stringent applicable state, federal, local, and TRPA regulations pertaining to protection of water quality from construction, this impact would be **less than significant** for all alternatives.			
Impact 3.8-2 Stormwater runoff, drainage capacity, infiltration related to pollutants reaching the Lake. All five RTP/SCS alternatives would include development of many stormwater treatment and erosion/sediment control projects that would result in net decreases in sediment and nutrient transport to the Lake. Although some transportation projects (such as bicycle paths and realigned highways) would create new impervious surfaces and attendant runoff (including on erodible slopes and SEZ), drainage would be controlled and runoff would be treated, so that the capacity of receiving stormwater systems or natural drainages would not be exceeded and sediment transport to the Lake would not be increased. Any new transportation projects would be required to comply with the stringent stormwater and sediment control measures in the Lahontan Water Quality Control Plan, the Lake Tahoe TMDL Program, and existing NPDES permits. These controls would include permanent BMPs, low-impact development techniques, and onsite stormwater infiltration to accommodate at least a 20-year, one-hour storm, which would prevent an increase in volume or peak flows leaving the project sites. Over time, BMP maintenance is critical to proper functionality. Lack of maintenance could result in the transport of sediment and other pollutants to nearby water bodies; however, existing TRPA policy requires a maintenance program for BMPs. Because all five RTP/SCS alternatives would include new stormwater treatment and erosion control projects and transportation projects would be required to control, treat, and infiltrate runoff produced from any increases in impervious area, the net impact on long-term stormwater runoff and	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
potential for pollutants to reach the Lake would be **beneficial** for Alternatives 1, 2, 3, 4, and 5.			
Impact 3.8-3 Lake Tahoe TMDL attainment and Lake clarity. All RTP/SCS alternatives would assist with attaining the Lake Tahoe TMDL program goals, because Transportation Strategy Packages A, B, and C include stormwater-control projects specifically designed to address TMDL requirements and help reach or maintain the threshold standard for water quality and Lake clarity. The benefits of reduced pollutant loads from stormwater-control projects would be substantial. All alternatives would result in a **beneficial** impact in helping support TMDL program attainment and Lake clarity.	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**
Impact 3.8-4 Potential for Lake water quality effects of waterborne ferry operations. Alternatives 1, 3, 4, and 5 would include implementation of regular ferry service on the Lake between the North Shore and South Shore through the Lake Tahoe Waterborne Transit Project. The ferry service would involve operation of multiple vessels on regular schedules, fueling of vessels, and regular vessel maintenance, all of which involve the risk of discharge of pollutants to Lake Tahoe through accidental spills, vessel discharges, or runoff from shoreland ferry facilities. Ferry operations could potentially increase vessel wakes disturbing the Lake shore and require temporary construction disturbance for pier improvements and related facilities. Recognizing vessel discharge regulations, requirements for runoff control and treatment, best management practices for avoiding accidental spills, and normal vessel nearshore speed limits to retard wakes, the potential water quality impacts of ferry operation would be **less than significant** for Alternatives 1, 3, 4, and 5. **No impact** would occur for Alternative 2, which does not include the Lake Tahoe Waterborne Transit Project.	Alternatives 1, 3, 4, and 5 – **LTS** Alternative 2 – **NI**	No mitigation is required for any of the alternatives.	Alternatives 1, 3, 4, and 5 – **LTS** Alternative 2 – **NI**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.8-5 Changes in currents, related to changes in the natural littoral processes, or the course or direction of water movements in Lake Tahoe. RTP alternatives 1, 3, 4, and 5 that include the Lake Tahoe Waterborne Transit Project under Transportation Strategies A and C could potentially impact natural littoral processes that may exacerbate shoreline erosion through the expansion of existing piers or installation of new piers, docks or in-shoreline facilities to support expanded ferry operations. Because projects under Alternatives 1, 3, 4, and 5 would be required to comply with TRPA's policies and regulations for new construction and maintenance activities within the Lake Tahoe shoreline to avoid interference with littoral currents and natural shoreline processes, this would be a **less-than-significant** impact for Alternatives 1, 3, 4, and 5. Alternative 2 would have **no impact** on shoreline processes.	Alternatives 1, 3, 4, and 5 – **LTS** Alternative 2 – **NI**	No mitigation is required for any of the alternatives.	Alternatives 1, 3, 4, and 5 – **LTS** Alternative 2 – **NI**
Impact 3.8-6 Development and the 100-year flood hazard area. Flood risk is relatively low as a percent area basis within the Tahoe Region, because of the mountainous terrain and minimal occurrence of flood hazard as a whole; however, all RTP alternatives would potentially build roadway, trails, and multi-use bridges and walkways across rivers, creeks, and 100-year floodplains. Any project that would encroach upon, or cross a 100-year flood hazard area would be required to adhere to several federal, state, regional and TRPA requirements for protection of public safety, property and environment from any impacts that may occur due to construction or obstruction within a 100-year flood hazard area. Therefore, this potential impact would be **less than significant** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
esource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.8-7 Direction and rate of flow of groundwater. Projects included under all the RTP alternatives would involve construction that has the potential to intercept and/or redirect groundwater flows from excavations and below ground surface installations of piers, abutments, parking structures, bike trails, transit facilities or other structures or drainage improvements. Any project under all RTP alternatives that would propose below ground installations that could potentially disrupt groundwater movement is required to follow the TRPA grading standards that require such projects to fully mitigate those impacts prior to approval to protect groundwater resources. Therefore, the potential to interfere with groundwater flow would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
3.9 Scenic Resources			
Impact 3.9-1 Effects on Existing Scenic Quality or Scenic Resources. Transportation projects included in the RTP would be designed consistently with TRPA scenic requirements. Many projects would provide the opportunity to enhance scenic quality and community design in urban areas through community revitalization, urban trail corridors, or implementation of complete streets. Nonetheless, new transportation facilities may alter or cause degradation to the existing scenic quality of Roadway or Shoreline Travel Units or damage scenic resources in rural areas as a result of construction activities and the introduction of new or expanded facilities or structures. TRPA scenic requirements in the Code of Ordinances would avoid and reduce adverse effects and many projects would improve existing scenic quality; however, the potential for development of transportation facilities to degrade scenic quality in rural areas and the shorezone/shoreland cannot be entirely dismissed. Although attaining and maintaining threshold standards, including those protecting scenic quality, is an inherent objective of the RTP/SCS, there would be a	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.9-1a: Require Construction Screening.** As a condition of approval for all construction projects related to all five RTP/SCS alternatives, the project proponent (e.g., Tahoe Transportation District (TTD), local County, Caltrans, NDOT) will ensure that construction-related activity is screened and maintained by installing visual screen fencing, storing building materials and equipment within the proposed construction staging areas or in areas that are as far away or hidden from public view as feasible and removing construction debris promptly. **Mitigation Measure 3.9-1b: Implement Scenic Impact Avoidance and/or Mitigation Through TRPA Design Review.** Considerable discretion is involved in determining how new structures will either avoid adverse scenic impacts or if needed, apply compensatory scenic mitigation. Transportation facilities, including new buildings and structures, will be required to undergo detailed design review and determinations of consistency with TRPA scenic requirements during project planning and environmental review. For the Lake Tahoe Waterborne Transit Project, ferry berthing and maintenance	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternative			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
potential for a significant scenic impact related to implementation of new projects, because considerable discretion needs to be applied to projects to determine how scenic impacts would be avoided, or if needed, what compensatory scenic mitigation may be required. A **potentially significant** impact on scenic quality and scenic resources is recognized for all five RTP/SCS alternatives.		facilities will be limited to existing marina piers and buildings, if feasible. If not, the visible mass of new or expanded piers and buildings will be designed in accordance with TRPA Shorezone and Shoreland scenic requirements, including compensatory scenic mitigation, if needed. All projects will be required to help attain and maintain scenic threshold standards. If projects are found during the project review to be potentially inconsistent with scenic requirements or potentially may not help attain and maintain scenic threshold standards, project proponents will work with TRPA to modify project design or identify project-specific scenic mitigation measures to ensure that all required scenic requirements and threshold standards are met, specifically: Travel Route Ratings, Scenic Quality Ratings, Public Recreation Areas and Bike Trails Scenic threshold standards, and Community Design.	
Impact 3.9-2 Effects on Scenic Vistas from a Public Road or other Public Area. Proposed new pedestrian and bicycle trails would, in some locations, provide enhanced public access to vistas of the Lake. Waterborne transit offers a new type of high viewer-volume, public, on-lake access to Lake and Basin rim vistas. If new or expanded ferry piers are needed in the shorezone, or if parking, ferry terminal, or ferry maintenance structures and buildings are needed in the shoreland, the potential for blockage or interference with scenic Lake vistas is conceivable; however, shorezone and shoreland scenic requirements are designed to avoid such effects. Nonetheless, the potential for development of ferry facilities that may interfere with Lake vistas cannot be entirely dismissed. Transportation projects that would involve roadway, trail, stormwater, and other public works improvements would not block or interfere with scenic vistas, because they either consist of "horizontal" infrastructure (such as grading, drainageways, or paving) or involve smaller, "vertical" structures that would not be large enough to interfere with scenic vistas (such as	Alternatives 1, 3, 4, and 5 – **PS** Alternative 2 – **LTS**	In addition to implementing projects in a manner that is consistent with Design Review Guidelines, Shorezone Ordinance requirements, and scenic standards, the following mitigation applies for Alternatives 1, 2, 3, 4, and 5. Alternative 2 does not require mitigation. For Alternatives 1, 3, 4, and 5, TRPA will implement Mitigation Measure 3.9-1b. See above, for a description of the mitigation measure under Impact 3.9-1.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
transit shelters, low bridge railings, unobstructive trail alignments). Nearly all of the transportation projects in the RTP would enhance public access to scenic vistas, or would not be of a size or height that would create the potential for interference with scenic vistas. For alternatives that include the Lake Tahoe Waterborne Transit Project, the potential for shorezone and shoreland structures to adversely affect Lake vistas cannot be entirely dismissed, which would constitute a **potentially significant** impact for Alternatives 1, 3, 4 and 5. Effects on scenic vistas from public areas would be a **less-than-significant** impact for Alternative 2.			
Impact 3.9-3 New Sources of Light or Glare. The Transportation Strategy Packages in the RTP/SCS include several facilities and operations that would not include additional outdoor lighting, such as bicycle paths in rural areas, TMDL projects, or continued operation of existing transit. Other projects would add lighting in existing, illuminated community centers, such as road realignments, community revitalization projects, pedestrian and bicycle trails in urban settings, and a complete street project. Because of the existing urban setting and minimal additional light sources, no significant adverse night lighting or glare effects would occur. The Lake Tahoe Waterborne Transit Project would include new passenger terminals and a maintenance facility, which could include additional exterior lighting along the shorezone and shoreland. This additional lighting would be very localized, designed for low glare and night glow, and would not contribute substantial new sources of light or glare to the Region. Existing regulations and standard design practices would restrict light fixture locations, lighting visibility from other sites, the type and intensity of lights, and the direction of light projection. The localized nature of new light sources and use of standard low glare and night glow designs would avoid significant change in light and glare in the Region. This would be a **less-than-significant** scenic impact for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
3.10 Biological Resources (Vegetation, Wildlife, and Fisheries)			
Impact 3.10-1 Sensitive Habitats. Sensitive habitats in the Tahoe Basin include a variety of wetland/riparian communities such as wet meadows, riparian zones along streams, marshes, seasonal wetlands, drainages, springs, fens, bogs, and deep water plant communities of Lake Tahoe. Most of these communities are also designated by TRPA as SEZ and habitats of special significance. Implementation of projects under all alternatives (Alternatives 1, 2, 3, 4, and 5), depending on their specific locations, could result in removal or disturbance of habitats considered sensitive by USACE and TRPA, including riparian vegetation, SEZ, and potential jurisdictional wetlands. Construction-related disturbances could occasionally occur in or otherwise directly or indirectly affect areas that may support sensitive habitats, including SEZs, outside of existing disturbed areas. This potential habitat loss would be a **potentially significant** impact to SEZs and other sensitive habitats in the Basin for all alternatives. Depending on the specific locations, types, and objectives of water quality improvements under Alternatives 1, 2, 3, 4, and 5, long-term impacts to stream and lake habitats are **potentially beneficial**.	Alternatives 1, 2, 3, 4, and 5 – **PS** and **Potentially Beneficial**	**Mitigation Measure 3.10-1a: Implement Vegetation Protection Measures and Revegetate Disturbed Areas**. Vegetation will not be disturbed, injured or removed, except in accordance with the Code or conditions of Project approval. All trees, major roots, and other vegetation, not specifically designated and approved for removal in connection with a project will be protected according to methods approved by TRPA. All vegetation outside the construction site boundary, as well as other vegetation designated on the approved plans, will be protected by installing temporary fencing pursuant to subsections 33.6.9 and 33.6.10. Areas outside the construction site boundary that sustain vegetation damage during construction will be revegetated according to a revegetation plan in accordance with Section 61.4. **Mitigation Measure 3.10-1b: Conduct Delineation of Waters of the United States and Obtain Authorization for Fill and Required Permits**. Prior to the start of on-site construction activities, a qualified biologist will survey the project area for sensitive natural communities. Sensitive natural communities or habitats are those of special concern to resource agencies or those that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA) and other applicable regulations. If sensitive natural communities or habitats that are afforded specific consideration, based on Section 404 of the Clean Water Act (CWA) are determined to be present, a delineation of waters of the United States, including wetlands that would be affected by the project, will be prepared by a qualified biologist through the formal Section 404 wetland delineation process. The delineation will be submitted to and verified by USACE. If, based on the verified delineation, it is determined that fill of waters of the United States would result from implementation of the project, authorization for such fill will be secured from USACE through the Section 404 permitting	Alternatives 1, 2, 3, 4, and 5 -**LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		process. The acreage of riparian habitat (deciduous riparian vegetation) that would be removed or disturbed during project implementation will be quantified and replaced or restored/enhanced in accordance with USACE and TRPA regulations. Habitat restoration, enhancement, and/or replacement will be at a location and by methods agreeable to USACE as determined during the permitting processes for CWA Section 404 and by TRPA during the permitting process for SEZ.	
Impact 3.10-2 Tree Removal. Under all alternatives (Alternatives 1, 2, 3, 4, and 5), construction of several RTP projects would likely require the removal of native trees. Provisions for tree removal are provided in the TRPA Code of Ordinances (Chapter 61, and Chapters 33 and 36), and tree removal requires the review and approval of TRPA. For specific projects under all alternatives (Alternatives 1, 2, 3, 4, and 5), project-level planning and environmental analysis would identify potential tree removal. Tree removal as a result of specific transportation projects would be a **potentially significant** impact for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.10-2: Minimize Tree Removal and Develop a Tree Removal and Management Plan.** Where feasible, the project will avoid and minimize the removal of trees, especially those 30 inches in DBH or larger. This avoidance and minimization will be achieved through project design to the greatest extent feasible. Tree removal that cannot be avoided will be mitigated with the following measures. In accordance with Chapter 61, Section 61.1.5.C of the TRPA Code of Ordinances, a tree removal and management plan will be prepared by a qualified forester and will be submitted to a TRPA Registered Professional Forester (RPF) or other qualified TRPA professional for review and approval. TRPA approval of the plan will be obtained before project approval. Alternatively, if a timber harvesting plan is required to be submitted to California Department of Forestry and Fire Protection and meets the requirements described in this mitigation measure, the timber harvesting plan may be submitted to TRPA for review and approval in lieu of a separate tree removal and management plan. The tree removal and management plan will adhere to the provisions in Chapter 61 of the TRPA Code of Ordinances, including the preservation of trees larger than 30 inches DBH (Section 61.1.4.A). The plan will include protection measures for snags and coarse woody debris. In accordance with the TRPA criteria Standards for Common Vegetation, the plan will maintain relative species richness, relative abundance, and	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		relative age class, as appropriate and feasible, to contribute to the attainment of the region-wide Threshold Standard. Permanent disturbance (i.e., disturbance after project construction caused by the proposed project) and temporary disturbance (i.e., disturbance from construction activities) of all trees to be preserved will be minimized. This will include minimizing cuts, fills, grade changes, paving or other coverage, soil compaction, and landscaping effects within the critical root zone of all trees, as determined by a qualified environmental professional. Creation of detailed site plans and construction documents will be coordinated with a qualified environmental professional to minimize permanent and temporary disturbance. The tree removal and management plan will demonstrate how site development design will minimize the permanent disturbance of all trees to be preserved, and how construction planning will minimize temporary disturbance of all trees to be preserved. To minimize temporary disturbance, the tree removal and management plan will provide for vegetation protection during construction in accordance with Chapters 33 and 36 of the TRPA Code of Ordinances. All tree protection obligations required in the tree removal and management plan will be incorporated into construction contracts. Tree protection measures will be installed, and will be inspected by staff from TRPA before issuance of a grading permit. As part of the tree removal and management plan, a tree replacement plan may be prepared by a qualified forester, in accordance with Chapters 36 and 61 of the TRPA Code of Ordinances. Tree replacement needs and specifications will be determined in cooperation with TRPA during development of	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		the tree removal and management plan. Determining whether tree replacement is appropriate, and the amount of project-related tree removal subject to mitigation by tree replacement, should be based on several considerations related to local and Basin-wide vegetation and fuels management goals and opportunities. These considerations include: (1) the condition, stocking level, and encroachment potential of stands where trees would be removed relative to vegetation/fuels management objectives, desired ecological conditions, and relevant TRPA threshold standards for those areas (e.g., stands proposed for removal that are presently overstocked, encroaching into other native vegetation types, or otherwise undesirable may not warrant full replacement); (2) whether on- or offsite tree replacement, which could increase tree density and cover at replanting sites, would either contribute to or conflict with fuels/vegetation and forest health goals for those locations or Basin-wide; and (3) how tree replacement may affect attainment of TRPA threshold standards for vegetation. If a tree replacement plan is required, it would be submitted to and approved by a TRPA RPF or other qualified TRPA professional before tree removal or the issuance of a grading permit. Tree replacement will only be implemented in a manner that is also consistent with fire fuel management objectives for the replanted properties.	
Impact 3.10-3 Effects on Fish and Aquatic Habitat. Under all alternatives (Alternatives 1, 2, 3, 4, and 5), aquatic habitats could be affected by project construction activities associated with new or improved stream crossings, transportation facilities adjacent to aquatic habitats, and stormwater control projects. Construction could temporarily result in increased turbidity and downstream sedimentation, small amounts of fill placed in aquatic habitats, and the release and exposure of construction-related contaminants. Construction-related disturbances to fish and aquatic habitat would be a potentially significant for all alternatives. Depending on the specific	Alternatives 1, 2, 3, 4, and 5 – **PS** and **Potentially Beneficial**	**Mitigation Measure 3.10-3: Conduct Preconstruction Surveys and Develop and Implement Native-Fish Capture and Translocation Plan.** The project proponent shall develop and implement measures to prevent the construction-related loss of native fish occupying habitat within the project-specific area. In accordance with existing regulations, before any construction activities that require dewatering commence, a qualified biologist shall conduct preconstruction surveys and implement native-fish relocation activities within the construction dewatering area. All captured native fish species shall be immediately released to a suitable habitat near the project	Alternatives 1, 2, 3, 4, and 5 – **Potentially Beneficial**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
locations, types, and objectives of water quality improvements under Alternatives 1, 2, 3, 4, and 5, long-term impacts to stream and lake habitats are potentially beneficial.		area. The qualified biologist shall place nets with 1/8-inch mesh at the upstream and downstream extents of the area to be dewatered to keep fish out of the area during fish removal activities. After completion of removal activities, the work area will be cleared for dewatering. Fish rescue and relocation will continue until the area is completely dewatered or until it is determined that no fish remain in the dewatering area. This fish translocation plan will apply only to native fish species. Nonnative species captured during the pre-dewatering effort will be humanely killed and disposed of. These activities shall take place in consultation with TRPA and the Nevada Department of Wildlife (NDOW) or California Department of Fish and Game.	
Impact 3.10-4 Special-Status Plant and Wildlife Species. Under all alternatives (Alternatives 1, 2, 3, 4, and 5), construction of some RTP projects could affect special-status plant or animal species, depending on the specific locations, presence of suitable habitat and the type, timing, and specific nature of the project actions. During project-level planning and evaluation, species with potential to be affected would be determined based on the species' distribution and known occurrences relative to the project area, the presence of suitable habitat for the species in or near the project area, and preconstruction surveys. If special-status plant or wildlife species are found where RTP project-specific ground disturbance is planned, then implementing Alternative 1, 2, 3, 4, or 5 could result in their removal or disturbance. This impact would be **potentially significant**.	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.10-4a: Conduct Follow-up, Pre-construction Surveys and Avoid, Minimize, or Compensate for Impacts on Special-Status Plant Species**. To avoid, minimize, or compensate for possible adverse effects on special-status plant species resulting from a proposed RTP project, the following management requirements would be implemented in the following order, in accordance with existing regulations: 1. A qualified botanist familiar with the vegetation of the Tahoe Basin will conduct preconstruction surveys for special-status plants that could occur in the project area and be affected by the proposed project. Surveys will be conducted during appropriate blooming periods when target species are clearly identifiable and will follow CDFG's Guidelines for Assessing the Effects of Proposed Development on Rare, Threatened, and Endangered Plants and Plant Communities (CDFG 2000). 2. If no special-status plants are found during the survey, the results of the survey will be documented in a letter report to the lead agencies that would become part of the project environmental record, and no further actions will be required.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		3. If occurrences of special-status plants are documented during the survey, they will be clearly identified in the field and protected from impacts associated with construction activities. Protective measures will include flagging and fencing of known plant locations and avoidance where possible. No construction-related activities will be allowed within areas fenced for avoidance, and construction personnel will be briefed about the presence of the plants and need to avoid effects on the populations. 4. If avoidance is not possible, a mitigation plan to reduce impacts on special-status plants to a less-than-significant level will be developed in coordination with the lead agencies, CDFG (for CNPS List 2 species), and USFS (for forest sensitive species), depending on the species affected. The mitigation plan will include provisions for minimizing impacts on special-status plant populations during construction and for relocation and establishment of plants at new protected locations in the study area. The mitigation plan will also include provisions for follow-up monitoring to determine mitigation success, and remedial measures should the initial efforts to mitigate fail. The plan will be adopted and implemented by the project proponent. **Mitigation Measure 3.10-4b: Conduct Pre-construction Surveys for Nesting Special-Status Birds, and Implement a Limited Operating Period if Necessary**. In accordance with existing regulations, for construction activities that would occur in suitable habitat during the nesting season (generally April 1–August 31, depending on species and weather), a qualified wildlife biologist will conduct focused surveys for active nest sites of special-status birds. The biologist should be able to identify Sierra Nevada bird species audibly and visually. If an active special-status bird nest is located during the preconstruction surveys, the biologist will notify TRPA and CDFG. If necessary, modifications to the project design to avoid	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		removal of occupied habitat while still achieving project objectives will be evaluated, and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, appropriate limited operating periods will be established through consultation with TRPA and CDFG and will apply to avoid disturbances during the sensitive nesting season. **Mitigation Measure 3.10-4c: Conduct Pre-construction Surveys for Special-Status Bats, Avoid Removal of Important Roosts, and Implement a Limited Operating Period if Necessary**. In accordance with existing regulations, bat surveys will be conducted by a qualified wildlife biologist within 14 days before any tree removal or clearing each construction season. Locations of vegetation and tree removal or excavation will be examined for potential bat roosts. Potential roost sites identified will be monitored on two separate occasions for bat activity, using bat detectors to help identify species. Monitoring will begin 30 minutes before sunset and will last up to 2 hours at any potential roost identified. Removal of any significant roost locations discovered will be avoided to the extent feasible. If avoidance is not feasible, roost sites will not be disturbed by project activities until September 1 or later, when juveniles at maternity roosts would be volant (i.e., able to fly).	
Impact 3.10-5 Introduction and Spread of Invasive Weeds and Aquatic Invasive Species. Construction of some RTP projects under all alternatives would involve ground-disturbing activities in disturbed and native vegetation types. These activities would temporarily create areas of open ground that could be colonized by nonnative, invasive weed species from inside or outside of the project area. Invasive weeds and other species could inadvertently be introduced or spread in the project area during grading and construction activities, if nearby source populations passively colonize disturbed ground, or if construction and personnel equipment is transported to the site from an infested area. Under Alternatives 1, 3, 4, and 5,	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.10-5a: Implement Weed Management Practices during Project Construction**. In consultation with TRPA, the project proponent will implement appropriate weed management practices during project construction. Recommended practices include the following: 〉 A qualified biologist with experience in the Tahoe Basin will conduct a preconstruction survey to determine whether any populations of invasive/noxious weeds are present within areas proposed for ground-disturbing activities. This could be conducted in coordination with the focused special-status plant survey recommended above under Mitigation Measure	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
construction and operation of the Lake Tahoe Waterborne Transit Project, including the initial deployment of transit boats on Lake Tahoe, could facilitate the spread of aquatic invasive species into Lake Tahoe. Boats or construction equipment could harbor aquatic invasive species that could invade Lake Tahoe, if boats or equipment were exposed to those species in another water body and are not sufficiently cleaned and sanitized. The potential introduction and spread of invasive species as a result of implementing any alternative would be **potentially significant** for all alternatives.		3.10-4a, —Conduct Follow-up, Pre-construction, Focused Surveys and Avoid, Minimize, or Compensate for Impacts on Special-Status Plants. If noxious weed species are documented, they will be removed or their spread otherwise prevented before the start of construction. Control measures may include herbicide application, hand removal, or other means of mechanical control. This would help eliminate the threat of spreading the species throughout the study area and adjacent areas. 〉 All equipment entering the study area from weed-infested areas or areas of unknown weed status will be cleaned of all attached soil or plant parts before being allowed into the study area. 〉 To ensure that fill material and seeds imported to the study area are free of invasive/noxious weeds, the project will use on-site sources of fill and seeds whenever available. Fill and seed materials that need to be imported to the study area will be certified weed-free. In addition, only certified weed-free imported materials (or rice straw in upland areas) will be used for erosion control. After project construction, the study area will be monitored on an annual basis for infestations of invasive weeds until the restored vegetation has become fully established. If new populations of invasive weeds are documented during monitoring, they will be treated and eradicated to prevent further spread. **Mitigation Measure 3.10-5b: Implement Aquatic Invasive Species Management Practices during Project Construction**. In consultation with TRPA, the project proponent will implement appropriate aquatic invasive species management practices during project construction. Recommended practices include	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		the following: 〉 All equipment, including individual equipment such as waders, wading boots, etc., entering the project area that will be used in or around Lake Tahoe will be decontaminated using recommended methods before being allowed into the project area.	
Impact 3.10-6 Common Plant and Wildlife Species. Common plant and wildlife species are relatively abundant locally and regionally, and not considered limited by the availability of habitat in the Region. Under all alternatives (Alternatives 1, 2, 3, 4, and 5), implementation of RTP/SCS projects is not expected to substantially affect breeding productivity or population viability of any common species, or cause a change in species diversity locally or regionally. Additionally, the overall land use pattern and types of new development would not create new barriers to wildlife movement locally or regionally. Therefore, impacts to common plant and animal species, and effects on wildlife movement, as a result of implementing all of the alternatives would be **less than significant**.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
3.11 Recreation			
Impact 3.11-1 Compatibility with Existing Recreation Resources. The proposed RTP/SCS would result in projects in the Region that could potentially conflict with existing recreation resources and areas. However, existing Recreation Element Goals and Policies address potential conflicts and incompatibility of recreational areas and facilities with surrounding land uses. In addition, implementation of the RTP/SCS would provide new recreation facilities (i.e., trails) and improved access to existing recreation facilities for pedestrians, bicyclists, transit riders, and drivers. This impact would be **less than signific**ant for all alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.11-2 Capacity of Recreation Facilities and Resources. All RTP/SCS alternatives would implement new bicycle and pedestrian trails that would enhance recreational trail facilities and opportunities for residents and visitors. The proposed RTP/SCS would not convert recreational facilities to a non-recreation use, nor designate lands currently used for recreation for another land use or purpose; therefore, implementation of the proposed RTP/SCS would not reduce capacity of existing recreational facilities. The proposed RTP/SCS transportation strategy packages would not include new residential or commercial land uses that could directly increase use of existing, or demand for, new recreation facilities. The 1987 Regional Plan Recreation Threshold Standard includes indicators related to recreation that ensure appropriate Region-wide capacity for public outdoor recreation by assessing USFS user survey information and responding appropriately. Because of the enhancement of recreational trail opportunities, the overall impact to the capacity of recreation facilities and resources would be beneficial. This impact would be **beneficial** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**
Impact 3.11-3 Public Access to Lake Tahoe, Public Lands and Recreation Areas. All proposed RTP/SCS alternatives include transportation improvement projects that would increase public access throughout the Region, including enhancing access to the Lake, public lands, and recreation areas. Improvements involve primarily alternative transportation modes, such as transit, bicycle, and pedestrian projects. None of the RTP/SCS alternatives would obstruct public access to water or public land. Implementation of the RTP/SCS would result in a **beneficial** impact for all alternatives.	Alternatives 1, 2, 3, 4, and 5 – **Beneficial**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **Beneficial**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
3.12 Population, Employment, and Housing			
Impact 3.12-1 Location and Distribution of Population, Employment, and Housing in the Region. None of the alternatives would change the location and distribution of population, employment, and housing in a manner contrary to land use planning efforts, which are aimed at modest population growth and the promotion of environmental improvements. Thus, the RTP would not induce substantial growth, and impacts related to changes in the location and distribution of population, employment, and housing within the Region would not result in adverse environmental effects. This impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5**.**	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.12-2 Displacement of Residences and Businesses. Acquisition of land and buildings necessary for highway realignments and other transportation improvements could displace existing residences and businesses. The number of residences and businesses that would be displaced as a result of a project is undetermined at this time, because project design and right-of-way planning are needed to determin the extent of necessary displacement. This would be a **significant** impact for Alternatives 1, 2, 3, 4, and 5..	Alternatives 1, 2, 3, 4, and 5 - **S**	**Mitigation Measure 3.12-2: Prepare a Relocation Assistance Plan, or Equivalent Plan.** The project proponent will consider project alternatives that avoid displacement of homes or businesses. For projects that would result in the displacement of residences or business, the project proponent will comply with federal and state requirements for the preparation a relocation assistance plan (RAP), or equivalent document. For projects on the highway system or that receive federal transportation funds, preparation of a RAP will follow the requirements of the Federal Highway Administration Relocation Assistance Program in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. RAP-equivalent documents will comply with applicable regulations that may include the California Relocation Assistance Law (California Government Code Section 7260 et seq.), the California Relocation and Real Property Acquisition Guidelines (California Code of Regulations, Title 25 and Chapter 6, Section 6000 et seq.), and Caltrans' Right of Way Manual, Chapter 10. Relocation plan typically consider:	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		〉 Criteria for replacement housing, 〉 Reimbursement criteria for moving costs and/or different housing costs (including rents); and 〉 Reimbursement criteria for businesses, including costs associated with searching for a new space, and business lost.	
3.13 Public Services and Utilities			
Impact 3.13-1 Underground Utility Lines. Implementation of the RTP would require grading and other earthmoving activities. If an underground electric, gas, water, or wastewater line were to be encountered during project disruption, there is potential that this line could become severed or damaged and impede service to the surrounding areas. However, grading and earthmoving activities within the Region would require the identification of all known underground utility lines, which would allow contractors to avoid potential conflicts with existing utility services. Thus, this impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.13-2 Demand for Water Supply. Implementation of the RTP could require short- and long-term water supply during construction activities, such as dust reduction techniques and irrigation to establish vegetation. Some projects could include long-term water supply for project elements including toilets, sinks, spigots, and stormwater facilities and maintenance activities. Chapter 32.4 of the Code requires that basic water service requirements for projects proposing a new structure, reconstruction, or expansion of an existing structure, designed or intended for human occupancy must have adequate water rights and water supply systems. Thus, this impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.13-3 Solid Waste Disposal Capacity. Some of the projects proposed under the RTP have the potential to generate a substantial amount of solid waste from activities such as grading, removal of vegetation, and reconstruction of existing facilities. Currently, sufficient capacity remains at nearby landfills, several of which are planning expansions in the near future. Because there is substantial capacity remaining at the nearby landfill, and expansion processes have begun to further increase this capacity, solid waste disposal needs would be met. This impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.13-4 Demand for Wastewater Collection and Treatment. RTP projects may include toilets, sinks, and drinking water fountains, which would require wastewater treatment. These facilities would increase demand for wastewater treatment. Based on Small and Decentralized Wastewater Management Systems, demand for domestic water for public restrooms is estimated at five gallons of domestic water per person per day (Crites 1998, 171). Because the level of use related to public restrooms constructed to support bicycle paths, recreation projects, and other projects is unknown, the levels could become substantial and this impact would be **potentially significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.13-4: Prepare and Submit PUD- or GID-Specific Requests for New Wastewater Collection and/or Treatment.** In accordance with applicable regulations, the project proponent will prepare and submit calculations for wastewater collection and treatment needs to the applicable PUD or GID. Calculations will include, but not be limited to: 〉 location of the proposed project; 〉 site design documents providing the location of existing and proposed wastewater facilities; 〉 the number of potential dwelling units, anticipated recreation users, or other applicable quantification of user type; 〉 the number of fixture units (e.g., sinks, showers, toilets, washer, etc.); and 〉 anticipated wastewater collection and treatment demand. The project proponent will obtain authorization for new wastewater collection and treatment from the applicable PUD or GID before the start of construction activities. Potential impacts resulting from construction of wastewater	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		infrastructure improvements or construction will be addressed. Mitigation measures will be proposed to reduce potentially significant impacts, as feasible, and in accordance with TRPA Code of Ordinances and other state and federal requirements (e.g., CEQA Statues and Guidelines).	
Impact 3.13-5 Access for Emergency Services. Construction projects associated with RTP implementation could affect police services, fire protection, and emergency medical services response time and delivery of emergency services. Depending on the timing, location, and duration of construction activities, several of the projects included in the RTP/SCS, including intersection improvements, roadway and bikeway enhancements, and maintenance activities, could delay emergency vehicle response time or otherwise disrupt delivery of emergency services. By closing off one or more lanes of a roadway, emergency routes could be impaired; causing traffic delays and ultimately preventing access to calls for service. Thus, this impact would be project-specific and would be a **potentially significant** impact for Alternatives 1, 2, 3, 4, and 5**.**	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.13-5: Prepare and Implement a Traffic Control Plan in Coordination with Affected Agencies.** To minimize effects on emergency vehicle and existing public vehicular access, the project proponent for construction projects will, in accordance with applicable regulations, prepare a traffic control plan (TCP) that will address locations that will involve construction in existing roadways and rights-of-ways. The TCP will be prepared in accordance with professional traffic engineering standards and in compliance with the requirements of the affected agency's encroachment permit requirements (e.g., the affected county, Caltrans, NDOT) and will include measures that will provide notification to emergency service providers and adequate circulation around construction sites for emergency vehicle and existing public vehicular access. The TCP may include, but not be limited to, the following elements: 〉 The specific methods to maintain traffic flows on affected streets. 〉 The maximum amount of travel lane capacity during non-construction periods. 〉 Locations of flagger control for sensitive sites to manage traffic control and flows. 〉 Construction work zones width limits that, at a minimum, maintain alternate one-way traffic flow past the construction zones. 〉 Alternative routes to ensure that local residents, school buses, or emergency vehicles maintain access.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		〉 Coordinated construction activities (time of year and duration) to minimize traffic disturbances. 〉 Advanced warning posts of construction activities to allow motorists to select alternative routes in advance. 〉 Appropriate warning signage and lighting for construction zones. 〉 Appropriate and safe detour route identification if closure of a roadway is required, and signage that warns of road closures and detour routes. 〉 The TCP will be submitted to the affected agencies (county, city, NDOT, Caltrans) for review and comment.	
3.14 Hazards and Public Safety			
Impact 3.14-1 Expose the Public or Environment to Hazardous Materials. Construction activities related to each of the five alternatives could involve the storage, use, and transport of hazardous materials. However, use of hazardous materials would be typical of residential and commercial development projects in the Region and would occur in compliance with all local, state, and federal regulations. Therefore, impacts related to exposure of the public or environment to hazardous materials would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.14-2 Hazardous Materials Sites. Project sites could be located on sites that are included on a list of hazardous materials sites. Therefore, impacts related to exposure of the public or the environment to hazardous materials would be **potentially significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **PS**	**Mitigation Measure 3.14-1: Avoid Known Contaminated Sites.** In accordance with existing regulations, project proponents will require construction contractors to implement the following mitigation measures prior to any construction to prevent potential exposure to workers or the environment from contaminated sites: 〉 Prior to any construction activities, the project applicant will consult all known databases of contaminated sites. If it is determined that a project is located on or near a contaminated site, the implementing agency will consult with the appropriate	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		regulatory agencies (LRWQCB or DTSC in California or Nevada Division of Environmental Protection in Nevada) to either devise a remediation plan or avoid disturbance of contaminated areas. 〉 All projects should avoid, to the extent feasible, locating any construction staging areas or new transportation facilities in areas that could have been used previously for industrial/manufacturing uses, or other uses that could have involved use, handling, transport, or storage of hazardous materials (including but not limited to auto maintenance, gas station, equipment yard, dry cleaner, railroad, agriculture, mining, etc.). If such areas cannot be avoided, prior to any construction within such areas, the proponent will hire a qualified professional to conduct a Phase 1 Environmental Site Assessment (Phase I ESA), limited to the area of proposed ground disturbance that will identify the presence of any soil or groundwater contamination at concentrations that could pose health risk to construction workers. If such levels of soil or groundwater contamination are identified, the proponent will follow the recommendations in the Phase 1 ESA, which may include removal of contaminated soil, treatment and proper disposal of contaminated groundwater, or other remediation measures, all of which will be subject to applicable regulatory approvals.	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Impact 3.14-3 Exposure to Wildland Fire Hazard. Implementation of all of the five RTP/SCS alternatives would result in some level of construction activities associated with the transportation improvements that would take place in the Region. However, these activities would have no effect on fuel loading or defensible space and therefore would not result in an increased risk from wildland fire. Therefore, implementation of Alternatives 1, 2, 3, 4, and 5 would result in a **less-than-significant** impact from wildland fire hazards.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.14-4 Airport Safety Hazards. Implementation of all of the five alternatives would result in the construction of some projects in close proximity to the City of South Lake Tahoe Airport. All of the projects associated with the five RTP/SCS alternatives are transportation or water quality projects and would not result in the construction of tall buildings or structures in the vicinity of the airport that would violate the Comprehensive Land Use Plan (CLUP) airport height restriction policy. In addition, these projects would not introduce new residences in close proximity to the Airport or allow more intensive nearby development. Therefore, implementation of all five alternatives would not expose people to safety hazards from airports. This impact would be **less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.14-5 Vector-borne Disease Risks. Implementation of the 2035 RTP/SCS could include new treatment wetlands or detention basins for TMDL projects within the Region. These facilities could serve as potential breeding grounds for mosquito populations. However, these projects are easily accessible for vector control strategies and would not conflict with the ability of county and/or state agencies to conduct appropriate mosquito abatement programs. Therefore, implementation of the RTP/SCS would not result in an increased health risk from vector-borne diseases. This impact would **be less than significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 – **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
3.15 Cultural Resources			
Impact 3.15-1 Historical Resources. Demolition, alteration, or disturbance of existing features, buildings, and structures could result in changes to or destruction of historical resources. Roadway realignments, bicycle lanes, removal or replacement of bridges, and new or improved facilities (stormwater, parking, and restroom) could result in the disturbance or demolition of historic resources. Because future projects constructed under all of the alternatives could result in demolition or alteration of historical resources, this impact is **potentially significant** for Alternatives 1, 2, 3, 4, and 5.	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.15-1a: Prepare a Site-Specific Historic Resources Inventory Report.** To adequately address the level of potential impacts for a specific project and thereby design appropriate mitigation measures, the project proponent (e.g., Tahoe Transportation District (TTD), local County, Caltrans, NDOT) will survey, inventory, and determine the significance of the historic resources within the defined area of potential effect (APE) of specific projects that include construction of facilities. The following are steps typically taken to assess and mitigate potential impacts to historic resources: 〉 Define the APE, based on relevant standards (i.e., California, Nevada, TRPA, and federal procedures, as applicable) 〉 Identify both previously recorded historic resources and those not previously recorded. 〉 Evaluate the significance of historic resources using California, Nevada, TRPA, and federal (Section 106) guidelines, as applicable. 〉 Identify the significance of impacts of the proposed project under California, Nevada, TRPA, and federal (Section 106) guidelines, as applicable. 〉 Develop and implement mitigation measures designed to avoid, minimize, rectify, reduce or eliminate the effects of the project on significant historic resources. Minimally, an historic resources inventory will consist of an historic resources records search to be conducted at the North Central Information Center of the California Historical Resources Information System located at California State University, Sacramento or at the Nevada State Historic Preservation Office (depending on the location of the project);	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		review of TRPA's cultural resources database and mapping of eligible sites; consultation with the Native American Heritage Commission (NAHC) and with interested Native Americans identified by the NAHC (i.e., Washoe Tribe in this Region); a field survey (if one has not previously been conducted); recordation of all identified historic buildings and structures on California Department of Parks and Recreation 523 Site Record forms (in California); and preparation of an historic resources inventory report describing the project setting, methods used in the investigation, results of the investigation, and recommendations for management of identified resources. Identified historic resources in California jurisdictions that may be impacted by a project will be evaluated for eligibility on the California Register of Historical Resources (CRHR). Historic resources that are eligible for the CRHR are considered to be significant historic resources. Historic resources that are identified within project areas subject to federal approval, permits, or funding will also be evaluated for eligibility for listing on the National Register of Historic Places (NRHP), in accordance with Section 106 of the National Historic Preservation Act (NHPA). Historic resources determined to be eligible for listing on the NRHP are automatically eligible for listing on the CRHR and are considered to be significant historic resources. **Mitigation Measure 3.15-1b: Survey for Historic Resources.** In accordance with existing regulations, for any project that implements the RTP, the project proponent will survey and evaluate the area of potential effect of any development or other ground-disturbing activities that contain structures 50 years old or older for their historic significance prior to TRPA's approval of project plans. The survey will be carried out by a qualified historian or architectural historian who is acceptable to the lead agency and who meets the Secretary of the	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		Interior's Standards for Architectural History. If potentially significant historic resources are encountered during the survey, demolition, substantial alteration, and other adverse effects to such resources will be avoided. If avoidance of identified historic resources is deemed infeasible, with TRPA concurrence, the project proponent will prepare a treatment plan to minimize adverse effect, relocate resources, if appropriate, and photo-document and interpret any adversely affected resource. Any alterations, including relocation, to historic buildings or structures will conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. **Mitigation Measure 3.15-1c: Record Historic Buildings or Structures.** As noted in Mitigation Measure 3.15-1b, to the extent feasible, proponents of a project that implements the RTP will avoid adverse effects to historic resources. If adverse effects cannot be avoided, the proponent will prepare and implement a treatment plan in accordance with existing regulations. If avoidance or implementation of a treatment plan to protect an historic resource is not feasible, the project proponent will ensure that a qualified architectural historian will be retained to document the impacted historical architectural resource to Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) standards. HABS and HAER documentation packages will be entered into the Library of Congress as well as the North Central California Information Center of the California Historical Resources Information System. The project proponent will engage a qualified or architectural historian who is acceptable to the lead agency for the project. The historian, in cooperation with the appropriate federal, state, and local agencies, will develop and implement the	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		approach for data recovery and building recordation that is consistent with agency requirements.	
Impact 3.15-2 Archaeological Resources. Archaeological artifacts and sites have been found throughout the Lake Tahoe Region, because people have inhabited it for approximately 10,000 years. Additional, unknown archaeological resources are likely to exist given that archaeological sites tend to be located in environments that were desirable for human settlement, such as Lake Tahoe. Construction and excavation activities associated with project activities could result in sediment disturbance and removal, which can adversely affect archaeological resources. Because RTP/SCS projects would allow excavation and other ground-disturbing activities, all of the alternatives could result in adverse physical effects to known and unknown archaeological resources. This impact is **potentially significant** for Alternatives 1, 2, 3, 4 and 5.	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.15-2a: Prepare a Site-Specific Archaeological Resources Inventory Report.** To adequately address the level of potential impacts for a specific project and thereby design appropriate mitigation measures, in accordance with existing regulations, the project proponent will survey, inventory, and determine the significance of the archaeological resources within the defined area of potential effect (APE) of specific projects that include construction of facilities. The following are steps typically taken to assess and mitigate potential impacts to archaeological resources: 〉 Define the APE, based on relevant standards (i.e., California, Nevada, TRPA, and federal procedures, as applicable) 〉 Identify both previously recorded archaeological resources and those not previously recorded. 〉 Evaluate the significance of archaeological resources using California, Nevada, TRPA, and federal (Section 106) guidelines, as applicable. 〉 Identify the significance of impacts of the proposed project under California, Nevada, TRPA, and federal (Section 106) guidelines, as applicable. 〉 Develop and implement mitigation measures designed to avoid, minimize, rectify, or reduce or eliminate the effects of the project on significant archaeological resources. Minimally, an archaeological resources inventory will consist of an archaeological resources records search to be conducted at the North Central Information Center of the California Historical Resources Information System located at California State	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		University, Sacramento or at the Nevada State Historic Preservation Office (depending on the location of the project); review of TRPA's cultural resources database and mapping of eligible sites; consultation with the Native American Heritage Commission (NAHC) and with interested Native Americans identified by the NAHC (i.e., Washoe Tribe in this Region); a field survey (if one has not previously been conducted); recordation of all identified archaeological resources on California Department of Parks and Recreation 523 Site Record forms (in California); and preparation of an archaeological resources inventory report describing the project setting, methods used in the investigation, results of the investigation, and recommendations for management of identified resources. Identified archaeological resources in California jurisdictions that may be impacted by a project will be evaluated for eligibility on the California Register of Historical Resources (CRHR). Archaeological resources that are eligible for the CRHR are considered to be significant archaeological resources. Archaeological resources that are identified within project areas subject to federal approval, permits, or funding will also be evaluated for eligibility for listing on the NRHP, in accordance with Section 106 of the NHPA. Archaeological resources determined to be eligible for listing on the NRHP are automatically eligible for listing on the CRHR and are considered to be significant. **Mitigation Measure 3.15-2b: Conduct Archaeological Testing and Data Recovery.** If it is infeasible to avoid impacts on significant archaeological sites that have been determined to be eligible for listing by the TRPA or on the CRHR or the NRHP, additional research will be conducted, in accordance with relevant procedures, based on the location of the project and the involved agencies. Archaeological excavation will be conducted (CCR Section 15126.4[b][3][C]). This work will be conducted by a qualified archaeologist and will include	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		preparation of a research design, additional archival and historical research, archaeological excavation, analysis of artifacts, features, and other attributes of the resource, and preparation of a technical report documenting the methods and results of the investigation in accordance with the California Office of Historic Preservation Guidelines for Archaeological Research Design. The purpose of this work is to recover a sufficient quantity of data to compensate for damage to or destruction of the resource. The procedures to be employed in this data recovery program will be determined in consultation with responsible agencies and interested parties, as appropriate, potentially including the development and implementation of an Archaeological Research Design and Testing Plan (ARDTP) or Historic Properties Treatment Plan (HPTP). Where necessary, future project proponents would seek Native American input and consultation. **Mitigation Measure 3.15-2c: Conduct Archaeological Monitoring.** In accordance with existing regulations, for ground-disturbing activities that have the potential to impact archaeological remains and that will occur in an area that has been determined by a qualified archaeologist to be an area that is sensitive for the presence of buried archaeological remains, the project proponent (e.g., TTD, local county, Caltrans, NDOT) will require the construction contractor to retain a qualified archaeologist to monitor those activities. Archaeological monitoring will be conducted in areas where there is likelihood that archaeological remains may be discovered but where those remains are not visible on the surface. Monitoring will not be considered a substitute for efforts to identify and evaluate cultural resources prior to the project initiation. Where necessary, the project proponent will seek Native American input and consultation.	

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
		Mitigation Measure 3.15-2d: Stop Work in the Event of an Archaeological Discovery. If potentially significant cultural resources are discovered during ground-disturbing activities associated with individual project preparation, construction, or completion, the project proponent will require the construction contractor to stop work in that area until a qualified archaeologist can access the significance of the find, and, if necessary, develop appropriate treatment measures in consultation with TRPA and other appropriate agencies and interested parties. A qualified archaeologist will follow accepted professional standards in recording any find including submittal of the standard Department of Parks and Recreation (DPR) Primary Record forms (Form DPR 523) and location information to the California Historical Resources Information Center office (North Central Information Center) for California projects. The consulting archaeologist will also evaluate such resources for significance per California Register of Historical Resources eligibility criteria (PRC Section 5024.1; Title 14 CCR Section 4852). Consultation with the Nevada State Historic Preservation Officer will be undertaken for Nevada projects. If the archaeologist determines that the find does not meet the TRPA standards of significance for cultural resources, construction may proceed. If the archaeologist determines that further information is needed to evaluate significance, the lead agency will be notified and a data recovery plan will be prepared.	
Impact 3.15-3 Accidental Discovery of Human Remains. The location of grave sites and Native American remains are potentially not known in advance, and can occur outside of identified cemeteries or burial sites. As with archaeological resources, disturbance of human remains are more likely to occur in previously undisturbed and undeveloped areas, where excavation and ground-disturbing activities have not already resulted in discovery. However, human remains may be discovered in developed and disturbed areas, as well, and may	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.15-3: Stop Work if Human Remains are Discovered.** In accordance with existing regulations, if any human remains are discovered or recognized in any location on an individual project site, the project proponent will ensure that there will be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	**Level of Significance Before Mitigation (by Alternative)**	**Mitigation Measures**	**Level of Significance After Mitigation (by Alternative)**
also be of recent origin. Construction and excavation activities associated with development activities result in sediment disturbance and removal, which can unearth human remains if they are present. Because RTP/SCS projects would allow excavation and other ground-disturbing activities, all of the alternatives could result in accidental discovery of human remains. This impact is **potentially significant** for Alternatives 1, 2, 3, 4 and 5.		a) The applicable County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and b) If the remains are of Native American origin, 1. The descendants of the deceased Native Americans have made a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or 2. The Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.	
Impact 3.15-4 Undiscovered Paleontological Resources. There have been no recent discoveries of paleontological resources in the Tahoe Region. Basin surfaces were created by geologic uplift and have deep granitic bedrock and shallow surface soils. Because the Tahoe Region is not underlain with sedimentary rock formations (which are most likely to contain fossils), it is not likely to contain major paleontological resources. Although ground disturbing activities associated with RTP/SCS projects in all alternatives could affect subsurface resources, because the area has a low likelihood to contain paleontological resources, this impact would be **less than significant** for all alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**	No mitigation is required for any of the alternatives.	Alternatives 1, 2, 3, 4, and 5 - **LTS**
Impact 3.15-5 Ethnic and Cultural Values. Development in the Tahoe Region could result in physical changes to sites, structures, and areas that have religious or sacred significance or other cultural significance to the Washoe people. These could be permanent changes that alter, remove, or modernize features or temporary changes such as restriction of access from construction.	Alternatives 1, 2, 3, 4, and 5 - **PS**	**Mitigation Measure 3.15-5. Implement Other Cultural Resources Mitigation Measures** Implement Mitigation Measures 3.15-1a, 3.15-1b, 3.15-1c, 3.15-2a, 3.15-2b, 3.15-2c, 3.15-2d, and 3.15-3.	Alternatives 1, 2, 3, 4, and 5 - **LTS**

Table S-1. Summary of Environmental Impacts and Mitigation Measures for the RTP/SCS Alternatives			
Resource Topic/Impact	Level of Significance Before Mitigation (by Alternative)	Mitigation Measures	Level of Significance After Mitigation (by Alternative)
Because RTP/SCS projects could result in physical changes to historic and prehistoric sites, unique ethnic cultural values could be affected, and historic or prehistoric religious or sacred uses within the region could be restricted. Consultation with the Washoe tribe is required by federal, state and TRPA regulations, however, project activities could still uncover or destroy historic or archaeological resources as identified in Impacts 3.15-1 (historic) and 3.15-2 (archaeological). Additionally, as described in Impact 3.15-3 (human remains), project activities could result in accidental discovery of remains during grading and excavation. Accidentally discovered remains could be of Native American origin. Therefore, this impact is **potentially significant** for Alternatives 1, 2, 3, 4, and 5.			

Appendix C

2020 RTP/SCS Project List

2045 Regional Transportation Plan/Sustainable Communities Strategy Project List

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Active Transportation	03.01.02.0005	Al Tahoe Safety and Mobility Enhancement Project	CSLT	The project includes: Class 1 Bike Trail on Al Tahoe adjacent to middle school, from US 50 to Johnson, Bike Lanes on both sides Al Tahoe (same length), driveway narrowing (at bus barn, and at retail center) and intersection improvements at both ends. Sidewalks constructed by Southwest Gas in 2017 adjacent to the retail center were leveraged as part of the project by the City.	No
Active Transportation	04.01.03.0167	Trail and Intersection Improvements - Recreation and Swim Center Renovation/Replacement	CSLT	Additional trail connections and addition of 4th leg at Tallac and US 50	Yes
Active Transportation	01.01.01.0012	Tahoe Valley Greenbelt	CSLT	The Greenbelt project includes multi-benefit stormwater, SEZ, bicycle and pedestrian improvements and recreational amenities. Water quality and SEZ enhancements will include improving existing drainage ways and drainage systems to spread, treat, infiltrate, and retain flows from roadways, commercial areas, and other high priority, directly connected urban areas. Pedestrian and bicycle will include improving connectivity within the project area and to regional networks.	No
Active Transportation	03.01.01.0010	Nevada Stateline to Stateline Bikeway Laura Drive to Stateline (Phase 1a)	TTD	Phase 1A of the Nevada Stateline to Stateline Bikeway, South Demonstration Project, is a 1-mile segment extending the Laura Drive/Kahle (Phase 1B/1D) segments to Stateline along US 50 and then down Lake Parkway adjacent to Edgewood.	No
Active Transportation	03.01.01.0019	Pioneer Trail Pedestrian Project - Phase II	CSLT	Continue pedestrian sidewalks, lighting, transit stops, and class II bike lanes from the limits of the completed Phase 1 project (Larch Avenue) to the western limits of Ski Run Boulevard (+.45 Center line Miles).	No
Active Transportation	04.01.02.0059	Tahoe City Lakeside Trail Missing Link	Placer County	N/A	Yes
Active Transportation	03.01.02.0068	Upper Truckee River Class I Trail Widening - Tahoe City to Squaw Valley	Tahoe City Public Utility District	N/A	Yes
Active Transportation	03.01.02.0069	Class I Bike Trail from Sunnyside to the Intersection of Lower Sequoia & State Route 28	Tahoe City Public Utility District	N/A	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Active Transportation	03.01.02.0011	North Tahoe Regional Bike Trail	Placer County	Construction of approximately 7 miles of Class I bike trail that will link the Dollar Hill Multi-use Trail with the North Tahoe Regional Park in Tahoe Vista.	No
Active Transportation	03.01.02.0040	Class I Bike Path: East San Bernardino - West San Bernardino	El Dorado County	Construct approximately 0.37 miles of Class I bike path between West San Bernardino Ave and East San Bernardino Ave. The pathway will cross the Upper Truckee River and include access to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School in the community of Meyers. The project proposes to link the bike lane facilities along North Upper Truckee Rd and Apache Ave via a Class 3 (bike route) through signage and pavement markings.	Yes
Active Transportation	03.01.02.0041	State Route 89 Class I Bike Trail-Highway 50 to Portal Road	El Dorado County	The Class I bikeway along State Route 89 from Portal Road to US Highway 50 in Christmas Valley is intended to improve the regional bicycle path network by providing a critical link through the Christmas Valley area. The purpose of the project is to provide access to local businesses, schools, and offices for bicyclists and pedestrians, to reduce vehicular transportation, and to enhance recreational opportunities within the Lake Tahoe Basin.	Yes
Active Transportation	03.01.02.0045	Pope Beach Bike Path	USFS	Provide non-motorized path to beach amenities.	Yes
Active Transportation	03.01.02.0064	Nevada Stateline to Stateline Bikeway - Crystal Bay to Incline	TTD	Construct a portion of the Nevada Stateline to Stateline Bikeway from Crystal Bay to Incline Village.	Yes
Active Transportation	03.01.02.0066	Class I Bike Trail - Pine Blvd to end of Linear Park Path (Mountain to Beach Loop Park Ave West)	CSLT	Construct a Class I trail from the end of the Linear Park Path to Pine Boulevard west of Park Avenue in the City of South Lake Tahoe.	Yes
Active Transportation	03.01.02.0067	Class I Bike Trail Along US 50 from City Limits to Sawmill Road	El Dorado County	Construct a Class I bike trail along US 50 from the limits of the City of South Lake Tahoe to Sawmill Road.	Yes
Active Transportation	03.01.02.0053	US 50 Sidewalk Construction - Kingsbury Grade to Lake Parkway	Douglas County	Sidewalk on southside of US 50 connecting event center to Kingsbury	Yes
Active Transportation	03.01.02.0084	Brockway Vista Multi-Use Trail	Placer County	Brockway Vista Multi-Use Trail	Yes
Active Transportation	03.01.02.0083	Class I Bike Trail along State Route 28 from Preston Field to Northwood Blvd	Washoe County and NDOT	Construct a Class I bike trail along the north side of SR 28 (Tahoe Boulevard) in Incline Village from Preston Field to Northwood Blvd.	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Active Transportation	04.01.01.0010	Alta Mira Public Access Improvements	CTC	Lakeside Bike Trail Phase 2C - Mackinaw to Commons Beach	Yes
Active Transportation	03.01.02.0087	South Tahoe Greenway Shared Use Trail Phases 1b & 2	El Dorado County	The project constructs 0.95 miles of AASHTO-compliant trail between Glenwood Way and Sierra Boulevard, including 0.77 miles of 10 wide asphalt trail and 0.18 miles of elevated boardwalk/bridge. A new bike bridge over Trout Creek, improved local street crossings, and interpretive/wayfinding signage are also part of the project.	Yes
Active Transportation	03.01.02.0088	South Tahoe Greenway Shared Use Trail Planning and Future Phases	CTC	South Tahoe Greenway Shared-Use Trail will connect Sierra Tract and Van Sickle Bi-State Park in the core of South Lake Tahoe, establishing backbone of the non-motorized transportation network in the South Shore. To complete the Greenway, future phases will include Phases 1c, 3, and several neighborhood connectors. Future projects could extend the Greenway to Meyers.	No
Active Transportation	03.01.02.0093	Nevada Stateline to Stateline Corridor Improvements - Glenbrook Entrance to Round Hill Pines Beach	TTD	This project includes segments D, E, and F, identified in the Nevada Stateline-to-Stateline Bikeway Project Feasibility Study Report, completed in June 2011. Segment D: Glenbrook Entrance to Cave Rock Drive, estimated cost: $15M Segment E: Cave Rock Drive to Zephyr Cove, estimated cost: $11M Segment F: Zephyr Cove to Round Hill Pines Beach Entrance: $6M	Yes
Active Transportation	03.01.02.0094	Lake Tahoe Boulevard Class 1 Bicycle Trail (Viking Way to South Wye)	CSLT	Design and construct Class I bike trail, ADA compliant ramps, and pathway lighting along the 0.6-mile section of Lake Tahoe Blvd. from the Intersection of Viking Way (D-Street) to the intersection of State Hwy 89 and US 50 (South Wye). Note: Project name was updated from "Viking Way to Lake Tahoe Blvd.	Yes
Active Transportation	03.01.02.0110	Middle School SR 2S Project - Rufus Allen Connector	CSLT	This project proposes a Class I Bike and Ped trail along Rufus Allen Boulevard providing safe routes to school with access to the Al Tahoe Elementary School, Al Tahoe Middle School, St. Theresa School/Church, Boys and Girls Club, and the South Tahoe Middle School via a new trail connector across Lake Tahoe Unified School District property. Recreation facilities including the Recreation Center, Ice Arena, PlayFields, Running Track, Soccer Fields and the CTC Greenway will be accessed as well. Improvements along Rufus Allen Blvd are proposed to address urban stormwater water quality and flooding. Project begins at	Yes

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
				US 50 and Rufus Allen Bl and connects to the Al Tahoe Blvd Class I project.	
Active Transportation	03.01.02.0141	Fallen Leaf Road Pavement Rehabilitation and Recreational Access Project	El Dorado County	Fallen Leaf Road is 4.94 miles long and extends from SR 89 to the southern end of Fallen Leaf Lake at Stanford Sierra Camp. The proposed project is to complete roadway improvements along a 2-mile segment of Fallen Leaf Road from SR 89 to Tahoe Mountain Road, including an extension of the bike path from the Fallen Leaf Lake Campground to Tahoe Mountain Road. The currently deteriorating pavement conditions are a deterrent for users of the Fallen Leaf Road to access Federal lands, who are often towing boats, bikes, camping gear or snowmobiles	Yes
Active Transportation	03.01.02.0142	South Tahoe Greenway - Upper Truckee Connector Middle Reaches Pedestrian Bridge	El Dorado County	The Upper Truckee River is the largest watershed in the Lake Tahoe Basin flowing through the heart of South Lake Tahoe. Recently acquired into public ownership, the Johnson Meadow property was previously the largest swath of the Upper Truckee River that remained in private ownership. During severe winter storms of 2017, the heavily trafficked pedestrian bridge was made impassable with nearly 400 cubic yards of sediment washing out on the west side of the bridge. Future bridge connects the Sierra Tract neighborhood bordering on the East and the Barton/4th Street neighborhood bordering on the West. Planning is needed to identify the best location for a new bridge.	Yes
Active Transportation	03.01.02.0143	Kahle Drive Complete Street	NTRCD	This project proposes to transform Kahle Drive into a complete street by improving drainage, adding sidewalks, bike lanes, crosswalks, a safe intersection, and undergrounding overhead utilities. This 0.5 collector road provides key linkages to the existing Stateline to Stateline bike trail, trails throughout Rabe Meadow, and a Douglas County community center. The current condition of the road is highly degraded, unsafe, and a detriment to water quality and the adjacent public lands.	Yes
Active Transportation	04.01.03.0112	Regional Bicycle and Pedestrian Improvements from the Active Transportation Plan 2021-2035	USFS	Retrofit and/or provide water quality BMP-compliant day use parking for resort guests and employees. Reconfigure and retrofit road and day use parking, including implementation of water quality BMPs. Retrofit Village area to provide improved circulation efficiency and safety and implement water quality protection BMPs. Reconfigure campground entrance and primary circulation within the southern campground area.	Yes

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Active Transportation	03.01.02.0006	Class I Bike Trail: Third Street/Tahoe Valley Elementary	CSLT	Construct Class 1 bike trail between US 50 and Tahoe Valley Elementary School to provide a safe route for students and link US 50 corridor to the Tahoe Valley neighborhoods.	Yes
Active Transportation	N/A	Greenway to Bijou Bike Park connector	CSLT	See project 03.01.02.0087 - this project closes a gap in the Greenway.	No
Active Transportation	N/A	Priority Intersection Safety Projects	Various	2018 Safety Plan identified priority intersections for safety improvements.	No
Active Transportation	N/A	Active Transportation Plan 2036-2045	Various	Regional Bicycle and Pedestrian Improvements from the Active Transportation Plan 2036-2045.	Yes
Active Transportation	N/A	Active Transportation Plan 2026-2035	Various	Regional Bicycle and Pedestrian Improvements from the Active Transportation Plan 2026-2035.	No
Active Transportation	04.01.02.0060	Highway 89 Corridor Tahoe Trail Feasibility Study	Planning/Design	The purpose of the SR 89 - West Shore Tahoe Trail Feasibility Study is to analyze the completion of the Tahoe Trail between Meeks Bay and Spring Creek Road. This is the final section of the West Shore Tahoe Trail and will connect popular recreation sites, including Emerald Bay and D.L. Bliss with a shared-use trail. The purpose of completing the Tahoe Trail is to provide multi-modal access to popular West Shore recreation sites, reduce vehicle and parking impacts, improve transportation options available for residents and visitors, improve safety, enhance recreation access, reduce water and air pollution, and enhance stormwater management and water quality. (SR 89 Corridor)	Yes
Corridor and Communities	03.01.02.0049	SR 28 Central Corridor Improvements – Sand Harbor to Spooner State Park	TTD	Central Corridor improvements include an 8-mile segment of the NV Stateline to Stateline Bikeway connecting Sand Harbor to Spooner State Park proposed on the lake side of SR 28 providing off highway connections to US Forest Service recreation areas. The project includes co-location of Incline Village General Improve. District's treated sewer effluent export line. Replacement will relocate the new line under bike path and include options for other utilities (NV Energy / AT&T) to underground. To improve safety, parking lot expansions and improvements with transit stops are also planned throughout the corridor to relocate on highway parking. A permanent boat inspection station is also planned.	Yes
Corridor and Communities	03.01.01.0015	Mobility Improvements at SR 267 / SR 28 Intersection - New	Placer County	The existing signalized intersection at SR 267 and SR 28 in Kings Beach limits vehicular flow during higher traffic volume periods.	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
		Name: Kings Beach Western Approach		The project would convert the intersection to a roundabout considered to be an improvement in mobility, safety and efficiency, and LOS. Includes restoration of impervious surfaces, sidewalks and bike trail (Class I) connection. Project components will include acquisition of strategic parcels.	
Corridor and Communities	03.01.02.0074	Meyers Corridor Operational Improvement Project	El Dorado County	The project will accomplish complete streets by enhancing and improving intersections, adding lighting, signage, landscaping and reduce reliance on the private automobile, provide multimodal transportation improvements like visible crosswalks for bicycle and pedestrian movements, providing for future growth for transit facilities to enhance circulation and provide opportunities to experience Meyers as a pedestrian or cyclist.	No
Corridor and Communities	03.01.02.0024	US 50 South Shore Community Revitalization Project	TTD	The proposed project realigns US 50 and spans South Lake Tahoe, CA and Stateline, NV. Lake Parkway would be expanded to accommodate traffic through the area. The roadway would be designated as US 50 and would provide two travel lanes in each direction, with turn pockets at major intersections and driveways. The converted US 50 would include two eastbound lanes, a single two-way transit lane, and expand upon bicycle and pedestrian facilities.	No
Corridor and Communities	03.01.02.0072	Tahoe City Complete Streets Highway Improvements	Placer County	This project implements Tahoe City RSA improvement recommendations including Grove Street crossing improvements, pedestrian circulation improvements and bulb-outs at crosswalks along SR 28. The Grove Street HAWK (crossing light) is a proposed mitigation measure required as part of adoption of the Placer County Tahoe Basin Area Plan (Project PC2993). .02 Grove Street Crossing Improvements .03 Bulb-outs at crosswalks on SR 28.	No
Corridor and Communities	03.01.02.0023	SR 89/Fanny Bridge Community Revitalization Project Phase 2	Placer County	Placer Co is developing a Corridor Plan for the Resort Triangle, includes parking management, TDM, shuttles, improvements; within the basin SR 89, SR 267, SR 28.	No
Corridor and Communities	03.01.02.0118	Tahoe City Downtown Access Improvements	Placer County	Grove Street Parking Project: Implementing some of Tahoe City Mobility Study Recommendations, Parking expansion and circulation at Grove Street, improved pedestrian access, driveway and private parking consolidation, and possible redevelopment of business and outdoor public gathering places.	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
				These improvements are expected to improve vehicular level of service (LOS) and reduce reliance on the private automobile.	
Corridor and Communities	03.01.01.0004	Apache Avenue Pedestrian Safety and Connectivity Project	El Dorado County	Along Apache Avenue from the US 50/ SR 89 intersection to the Lake Tahoe Environmental Science Magnet School, implement sustainable mobility improvements to provide a safe walkable and bikeable roadway. The project will help support the Walk to School Day, Bike to School Day, and other activities in cooperation with the school district and the Meyers community. Apache Avenue is a major collector and provides challenges faced by the community walking and bicycling to the school and the nearby T.	No
Corridor and Communities	03.01.02.0073	NDOT Complete Streets Project	NDOT	The project improves traffic flow and promotes modal shift through safety and complete streets improvements including bike lanes, pedestrian crossing upgrades, adding left turn pockets, roadway realignment and pavement mill and fill, which includes grinding up the road and replacing it with an overlay.	Yes
Corridor and Communities	03.01.02.0108	US 50 Safety Improvement and Complete Streets	NDOT	The project improves traffic flow and promotes modal shift through safety and complete streets improvements including bike lanes, pedestrian crossing upgrades, adding left turn pockets, roadway realignment and pavement mill and fill, which includes grinding up the road and replacing it with an overlay.	Yes
Corridor and Communities	03.01.02.0138	Meeks Bay Highway Corridor Improvements	USFS	This project includes formalized and upgraded parking access to the wilderness at Meeks Bay trailhead, constructing new multi-use bike path and bridge and other associated facilities at Meeks Bay Resort, and BMPs.	No
Corridor and Communities	01.01.04.0014	Tallac Historic Site, Valhalla, and the Visitor Center Improvements	USFS	The objective of the overall project is to complete design and implementation of water quality protection BMPs and upgrades to meet recreational use standards at the Tallac Historic Site, Valhalla and Visitors Center. Upgrades can include building rehabilitation, water/sewer improvements and building replacement. Transportation improvements include the creation of a loop road interconnecting various sites, multimodal connections, bike paths and signage.	No
Corridor and Communities	01.01.03.0036	SR 89 Recreation Corridor Improvements	TRPA/USFS	The project will produce a SR 89 Recreation Corridor Management Plan and will implement the plan's recommendations. Expected improvements include enhancing parking, creating a seamless fee system, improve wayfinding,	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
				enhance visitor experience, redesign or repurpose existing facilities to enhance day-use activities, utilize adaptive traffic management on SR 89 that could prioritize transit, incentivize multi-modal transportation and deliver targeted advertising to inform visitors of their transportation and destination options. This project will also reduce erosion and stormwater runoff by restricting on-highway parking, and will reduce traffic congestion ultimately improving air quality.	
Corridor and Communities	04.01.03.0137	Round Hill Pines Resort Highway Intersection Improvements	USFS/CFL	Reconfigure resort entry/intersection with US 50 to eliminate existing safety concerns and improve access to the recreation site.	No
Corridor and Communities	4216	Caltrans Tahoe City Maintenance Station (SHOPP)	Caltrans	In Placer County at the Caltrans Tahoe City Maintenance Station on 4.4 acre parcel off SR 89. Demolish the existing employee housing and detached garage. Construct a new single story residential facility to meet current operational needs and State of California Employee Housing Act requirements. EA 4H980	Yes
Corridor and Communities	N/A	Transportation Demand Management Programs (Commute Tahoe)	TRPA		Yes
Operations and Maintenance	01.01.03.0023	Road BMP Inspection, Maintenance, Upgrades and Decommissioning	USFS	50% in 2025 and 50% starts in 2026	
Operations and Maintenance	06.01.03.0041	Pavement Perseveration – SR 28/SR 89 Junction to Nevada State Line (SHOPP)	Caltrans	On SR 28 in Placer County from SR 28/SR 89 Junction to Nevada State line. Grind and replace existing pavement, rehabilitate or replace poor drainage systems, and upgrade non-ADA compliance ramps to current standards.	Yes
Operations and Maintenance	06.01.03.0009	Bike and Pedestrian Facilities Operations and Maintenance – City of South Lake Tahoe	CSLT	This is the annual cost to operate and maintain bicycle and pedestrian facilities.	Yes
Operations and Maintenance	06.01.03.0008	Bike and Pedestrian Facilities Operations and Maintenance	El Dorado County	This is the annual cost to operate and maintain bicycle and pedestrian facilities.	Yes
Operations and Maintenance	06.01.03.0007	Bike and Pedestrian Facilities Operations and Maintenance	Tahoe City Public Utility District	This is the annual cost to operate and maintain bicycle and pedestrian facilities.	Yes
Operations and Maintenance	06.01.03.0005	Pavement Resurfacing on US 50 from “Y” Junction to CA/NV State Line (SHOPP)	Caltrans	On US 50 in South Lake Tahoe from SR 89/US 50 "Y" junction to CA/NV State line (PM 75.4/80.44). Pavement resurfacing (CAPM). Upgrade lighting, sign panels, ADA, and Transportation Management Systems (TMS) field element. EA 0J480	

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Operations and Maintenance	01.01.02.0030	US 50 Echo Summit Bridge Rehabilitation	Caltrans	On US 50 at Echo Summit Sidehill Viaduct Bridge (#25-0044). Bridge replacement. EA 3F530	No
Operations and Maintenance	06.01.03.0015	Streets and Roads Operations and Maintenance	El Dorado County	Annual Streets and Roads Operations and Maintenance (existing, does not reflect future TMDL implementation) – El Dorado County. This includes all on-going, recurring costs for operations and maintenance of roadways. One-time maintenance is tracked under a different project. Annual operations and maintenance costs must be tracked as part of the Regional Transportation Plan Update.	
Operations and Maintenance	06.01.03.0014	Streets and Roads Operations and Maintenance	Placer County	Annual Streets and Roads Operations and Maintenance for Lake Tahoe Basin Placer County. Includes all on-going, recurring costs for operations and maintenance of roadways. Annual operations and maintenance costs must be tracked as part of the Regional Transportation Plan Update. Tahoe Roads Department budget, however, estimated 70% of Tahoe Budget is within TRPA-Lake Tahoe Basin.	Yes
Operations and Maintenance	06.01.03.0016	Streets and Roads Operations and Maintenance	CSLT	Annual Streets and Roads Operations and Maintenance (existing, does not reflect future TMDL implementation) – City of South Lake Tahoe. This includes all on-going, recurring costs for operations and maintenance of roadways including snow removal and abrasives recovery. One-time maintenance is tracked under a different project. Annual operations and maintenance costs must be tracked as part of the Regional Transportation Plan Update.	No
Operations and Maintenance	06.01.03.0017	Streets and Roads Operations and Maintenance	Douglas County	This project will improve the existing USFS Welcome Center or construct a new terminal facility in Meyers to serve as the terminus of the Route 54 service and the transfer point to future additional services to connect to out of basin destinations. Improvements to the LTCC transfer terminal in conjunction with the college to add enhanced waiting facilities and real-time arrival displays. This project will fund three additional battery electric buses needed to operate the service at the envisioned frequency plus two spares. This project will fund one additional gasoline small cutaway needed to operate the expanded demand response service.	Yes
Operations and Maintenance	06.01.03.0006	Bike and Pedestrian Facilities Operations and Maintenance	Placer County	Supports project "TART Local Service Enhancements - Short Term" and "TART Additional and Expanded Service to Truckee -	Yes

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
				Short Term" to include replacement buses, expansion buses (estimated at 6), bus stop improvements, and Crystal Bay Transit Stop Enhancements.	
Operations and Maintenance	06.01.03.0010	Bike and Pedestrian Facilities Operations and Maintenance	Douglas County	Supports project "TART Local Service Enhancements - Short Term" and "TART Additional and Expanded Service to Truckee - Short Term" to include replacement buses, expansion buses (estimated at 6), bus stop improvements, and Crystal Bay Transit Stop Enhancements.	Yes
Operations and Maintenance	06.01.03.0011	Bike and Pedestrian Facilities Operations and Maintenance	Washoe County	This project provides capital improvements to transit - long term.	Yes
Operations and Maintenance	06.01.03.0019	Streets and Roads Operations and Maintenance - NDOT	NDOT	This project represents the sweeping completed by the NDOT.	Yes
Operations and Maintenance	06.01.03.0020	Streets and Roads Operations and Maintenance – Caltrans	Caltrans	Annual Streets and Roads Operations and Maintenance (existing, includes Stormwater Treatment Operations and Maintenance, does not reflect future TMDL implementation) -- Caltrans. This includes all on-going, recurring costs for operations and maintenance of roadways. One-time maintenance is tracked under a different project. Annual operations and maintenance costs must be tracked as part of the Regional Transportation	No
Operations and Maintenance	06.01.03.0018	Streets and Roads Operations and Maintenance	Washoe County	This project represents the sweeping completed by the NDOT.	Yes
Operations and Maintenance	06.01.03.0034	Emergency Roadway Repair Program	NDOT	Emergency Roadway Repair Program – NDOT	Yes
Operations and Maintenance	06.01.03.0035	Emergency Roadway Repair Program – Caltrans	Caltrans	Emergency Roadway Repair Program – Caltrans	No
Technology	03.01.01.0016	SR 28 Parking Lot Information and Guidance System Integration/Parking Lot Detection System	TTD	This is a pilot project to test display of real-time parking availability information via roadside dynamic message signs, internet applications, and mobile devices for pre-trip planning. Message signs and mobile device applications shall also provide way-finding guidance to public parking lots to encourage alternative travel modes (e.g. East Shore Express parking lot). This is also the pilot program for paid parking on the East Shore to generate revenues for financing of the Nevada Stateline to Stateline Bikeway. This is Project RI-02 from the 2015 Tahoe Basin ITS Strategic Plan, and relies on Project TM-05, Parking Lot Detection System, also in the ITS Strategic Plan.	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Technology	03.01.02.0075	Changeable Message Signs in Nevada	NDOT	Changeable Message Signs in Nevada	No
Technology	03.01.02.0096	Variable Speed Signs for Weather Conditions	NDOT	This project develops and deploys a system that utilizes RWIS information to regulate variable speed signs. Posted speeds shall reflect both roadway and climate conditions, requiring travelers to reduce speed in an effort to improve safety. Implementation will reduce collisions and escape ramp usage. Through implementation, this project reduces congestion and traveler delays, increases the efficiency of the transportation system, and minimizes impacts of transportation on the environment.	No
Technology	03.01.02.0076	Sierra Nevada Operation System	Caltrans	Updating monitoring equipment, CMS signs, camera (CCTV), HARS on US 50. (ITS at various locations in California). This project is SHOPP funded.	Yes
Technology	03.01.02.0077	Traffic Monitoring Stations in Nevada	NDOT	Changeable Message Signs in Nevada	No
Technology	03.01.02.0078	California Multi-Modal Signal Control Optimization	Caltrans	This project includes planning and analysis, then using those recommendations to upgrade multi-modal signal infrastructure which could include upgrading to camera detection instead of loops on all signalized intersections, coordinating signal timing, and purchase of equipment.	No
Technology	03.01.02.0100	Adaptive Traffic Management on SR 89 and SR 267	Placer County	This is a coordinated project between Placer County, TRPA, Caltrans, and the Town of Truckee to adaptively manage basin entry roads of SR 89 and SR 267, as described within the Placer County Tahoe Basin Area Plan (expected adoption January 2017). Examples of Adaptive Traffic Management strategies include bus only lanes or modified lane configurations during peak travel times. Through improved operations of basin entry roads, user satisfaction improves, congestion decreases, transit use increases, and impacts to the environment (including GHG emissions) are expected to decrease.	No
Technology	03.01.02.0095	Intelligent Mobile Observation (Highway)	Placer County	This is a coordinated project between Placer County, TRPA, Caltrans, and the Town of Truckee to adaptively manage basin entry roads of SR 89 and SR 267, as described within the Placer County Tahoe Basin Area Plan (expected adoption January 2017). Examples of Adaptive Traffic Management strategies include bus only lanes or modified lane configurations during peak travel times. Through improved operations of basin entry roads, user	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
				satisfaction improves, congestion decreases, transit use increases, and impacts to the environment (including GHG emissions) are expected to decrease.	
Technology	03.01.02.0102	Tahoe Basin Transportation Smartphone Application Pilot	TTD	Smartphones have become the most accessible device for pre-trip planning. This project will develop smartphone applications to enhance traveler information dissemination. Envisioned applications include transit, parking, and traffic network data. Applications will be advertised on TTD's website. To realize the full benefit of this project, enhanced cellular coverage is required to provide better accessibility to the application's data. Through improved efficacy of the transportation system, congestion and air quality is expected to improve. This project is ITS Plan - RI-09.	Yes
Technology	03.01.02.0106	Transit Signal Priority Along South Shore	Caltrans	This project offers transit priority through signal queue jump, preemption, or other signal priority technology. This makes transit more reliable and efficient promoting increased transit ridership and reduced reliance on the private automobile. Increased transit use will reduce vehicle miles traveled and GHG emissions, thus improving air quality and water clarity.	No
Technology	03.01.02.0133	Adaptive Traffic Management on US 50 (unconstrained)	Caltrans	This is a coordinated project between El Dorado County, TRPA, Caltrans, and the CSLT to adaptively manage the Hwy 50 basin entry. Examples of Adaptive Traffic Management strategies include bus only lanes or modified lane configurations during peak travel times. Through improved operations of basin entry roads, user satisfaction improves, congestion decreases, transit use increases, and impacts to the environment (including GHG emissions) are expected to decrease.	No
Technology	06.01.03.0036	Improved Parking Management and Wayfinding in Tahoe City	Placer County	This project builds off Tahoe City Downtown Access improvements, located on the constrained project list. Strategies could include consideration of dedicated parking circulators during peak periods, new parking and mobility infrastructure, and wayfinding signage. Wayfinding signage for parking facilities should be incorporated into a comprehensive program for multiple modes.	Yes
Technology	4165	Trail Safety Improvement Project	CSLT	Install dynamic speed feedback signs on Pioneer Trail on approaches. At intersection, install edge-lines and center lines, intersection warning signs for minor streets, intersection lighting, upgrade pavement markings, and widen shoulder.	Yes

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Transit	03.01.02.0038	TTD Transit Fleet and Facilities Upgrade -Phase 2035	TTD	This project includes capital expenditures for the transit system. Included in the project is preventive maintenance; fleet and facilities improvements; safety and security enhancements to both the fleet and facilities; and/or the purchase/lease of real property; and construction of facilities. The fleet component of this project includes, but is not limited to, the purchase of transit buses and other fleet vehicles and related equipment either as replacements or expansions to the fleet. Fuel types may include battery electric, gasoline, diesel, or variants/combinations of those noted fuels.	Yes
Transit	03.01.02.0054	TTD Transit Service Enhancements – Phase 2025	TTD	Funds for TTD's transit planning, operations, maintenance, and administration.	No
Transit	03.01.02.0120	Mobility Hub and Transit Center Operations	TRPA		No
Transit	03.01.02.0123	Mobility Hub and Transit Center Capital	TRPA		Yes
Transit	03.01.02.0115	TTD Transit Fleet and Facility Upgrades -Phase 2025	TTD	This project will improve the existing USFS Welcome Center or construct a new terminal facility in Meyers to serve as the terminus of the Route 54 service and the transfer point to future additional services to connect to out of basin destinations. Improvements to the LTCC transfer terminal in conjunction with the college to add enhanced waiting facilities and real-time arrival displays. This project will fund three additional battery electric buses needed to operate the service at the envisioned frequency plus two spares. This project will fund one additional gasoline small cutaway needed to operate the expanded demand response service.	Yes
Transit	03.01.02.0056	TART Transit Fleet and Facility Upgrades - Phase 2025	Placer County	Supports project "TART Local Service Enhancements - Short Term" and "TART Additional and Expanded Service to Truckee - Short Term" to include replacement buses, expansion buses (estimated at 6), bus stop improvements, Crystal Bay Transit Stop Enhancements.	No
Transit	03.01.02.0126	TART Phase 2045 Transit Capital Enhancements and Fleet Replacement	Placer County	From page 56 of the TART Systems Plan, approved April 19, 2016. Includes replacement buses, expansion buses, bus stop improvements, Crystal Bay Transit Stop Enhancements.	No

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Transit	N/A	TART Phase 2035 Transit Capital Enhancements and Fleet Replacement	Placer County	Funds for TART's transit capital enhancements and fleet replacement.	Yes
Transit	N/A	TART Transit Operations - Phase 2035	Placer County	Funds for TART's transit planning, operations, maintenance, and administration.	Yes
Transit	N/A	TART Transit Operations - Phase 2045	Placer County	Funds for TART's transit planning, operations, maintenance, and administration.	Yes
Transit	03.01.02.0055	TART Phase 2025 Transit Capital Enhancements and Fleet Replacement	Placer County	From the TART Systems Plan for Eastern Placer County, approved April 19, 2016. Annual operating cost is an average of the 5 years of costs shown on p.59 of the TART Systems Plan. - Expands summer season & peak season evening service from Tahoe to South of Squaw Valley and Northstar. -Off-Season Evening Expansion: South of Squaw Valley and Northstar -Additional Morning Winter 267 Run -Winter 30-min North Shore Service Frequency -Peak Season 30-min Service: South of Squaw Valley and Northstar -Off Season 30-min North Shore Service Frequency -Elimination of Skier Shuttle Includes expanded marketing	No
Transit	03.01.02.0021	Lake Tahoe Waterborne Ferry Project	Private	Development of a north/south transit connection for Lake Tahoe with passenger Ferry service. This initial capital Project includes preliminary engineering, environmental, final design and construction of a north and south shore Ferry terminal, and purchasing the Ferry boats necessary for the service. Once Service is established this Project will become part of TTD's transit operations.	No
Transit	03.01.02.0052	Lake Tahoe Waterborne Ferry Operations	Private	Once the Lake Tahoe Waterborne Ferry Project has been completed, this project will track the operations of this transit system.	No
Transit	03.01.02.0136	TTD Transit Fleet and Facility Upgrades -Phase 2045	TTD	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	Yes
Transit	03.01.02.0128	TTD Transit Service Enhancements -Phase 2035	TTD	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	Yes

Project Type	Project Number	Project Name	Lead Implementer	Description	New Project (not in 2017 RTP/SCS)
Transit	03.01.02.0117	TTD Phase 2045 Transit Capital Enhancements and Fleet Replacement	TTD	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	No
Transit	03.01.02.0144	TTD Transit Operations - Phase 2045	TTD	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	Yes
Transit	N/A	Supplemental Transit Services 2025	Private	Supplement Transit including micro shuttles, on demand shuttles, services that may be privately or publicly operated - but all available to the public	Yes
Transit	N/A	Supplemental Transit Services 2035	Private	Supplement Transit including micro shuttles, on demand shuttles, services that may be privately or publicly operated - but all available to the public	Yes
Transit	N/A	Supplemental Transit Services 2045	Private	Supplement Transit including micro shuttles, on demand shuttles, regional services that may be privately or publicly operated - but all available to the public	Yes
Transit	N/A	North Shore Water Taxi Project Phase 2035	Private	A public-private partnership similar to existing South Shore water taxi providing companion service to Crosslake Ferry.	Yes
Transit		TTD Transit Service Enhancements – Phase 2035	Private	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	Yes
Transit	03.01.02.0121	South Shore Water Taxi Project – All Phases	Private	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	No
Transit	03.01.02.0127	Regional Water Taxi Service Capital – Phase 2035	Private	This project will be a public-private partnership with the existing South Shore water taxi company in the South Shore to provide companion service to the Crosslake Ferry service.	Yes
Transit	03.01.01.0020	South Lake Tahoe Airport Improvement Project	CSLT	This project includes remaining projects from the Airport Capital Improvement Program and ongoing Operations and Maintenance. This program is funded primarily by FTA Airport Improvement Program (AIP) grant funds. It includes apron rehabilitation and BMPs resulting in water quality improvements.	No

Caltrans = California Department of Transportation; CSLT = City of South Lake Tahoe; CTC = California Tahoe Conservancy; NDOT = Nevada County Department of Transportation; TTD =Tahoe Transportation District; USFS = United States Forest Service; TRPA = Tahoe Regional Planning Agency

Appendix D

2020 Regional Transportation Plan Regional Forecast Report

Data and Forecasting

Introduction

As part of the 2020 TRPA Regional Transportation Plan (RTP), TRPA prepared regional and transportation forecasts for the years 2035 and 2045. The regional forecast includes changes in development, population demographics, and visitation. The transportation forecast includes the RTP project list, as well as the transportation strategies. The regional forecast and the transportation infrastructure forecast are implemented in the Tahoe travel demand model and the Trip Reduction Impact Analysis (TRIA) tool to allow planners to assess the efficacy of policies and projects that promote the goals of the Regional Plan and the RTP.

Development Forecast Summary

The 2035 and 2045 forecast years build upon the 2018 model base year, which was developed during the fall of 2019. More information about the 2018 base year can be found on the Tahoe model website. The forecasts include a variety of projections related to land use and the characteristics of the Regions' traveling population in the forecast years; this population includes residents, visitors, and commuters. The forecast years of 2035 and 2045 were selected to meet specific regulatory requirements of the California Sustainable Communities Strategy (SCS) and Federal RTP requirements.

Residents– The forecast projects Lake Tahoe's full-time residential population to increase slightly. The forecasted increase is a deviation from the declines in the Region's population observed over the last 20 years and is influenced by a suite of factors. First, the number of regional housing units will increase as residential allocations are distributed and workforce housing/affordable housing programs are implemented using residential bonus units. Second, the residential occupancy rate – the proportion of homes occupied by residents – is expected to increase due to an increase in housing supply available for residents from implementation of workforce and affordable housing initiatives as local and regional efforts to increase the housing supply for local residents take effect. The downward trend in regional population in the last 20 years was likely influenced by the declines in gaming and associated job loss. The precipitous declines in gaming revenues observed in the early part of the century following the opening of casinos in northern California have not continued into the second decade as revenues appear to have stabilized. The income distribution of the residential population will remain steady as increased

provision of workforce and affordable housing counteract recent upward trends in household income. School enrollment will increase slightly as a result of overall population growth. Employment will also increase as additional Commercial Floor Area (CFA) and Tourist Accommodation Units (TAU) are constructed throughout the Region.

Visitation – The forecast projects both day and overnight visitation to the Lake Tahoe Region to increase during the forecast years. This forecasted increase is based upon the projected population growth in the mega-region (Bay Area/Sacramento/Reno), forecasted increases in traffic counts in adjacent areas, and the increasing popularity of the outdoor recreation experience. This increase in visitation will result in an increase in the number of occupied overnight lodging units, short-term rentals, and seasonal homes.

Table 1: Forecast Data Summary

Forecast Data Summary				
	Base Year 2018	Forecast 2045	change (#)	change (%)
Residential Units and Population				
Residential Population	**51,624**	**58,041**	**+ 6,417**	**12.4 %**
Occupied Units	**21,624**	**24,315**	**+ 2,691**	**12.4 %**
Unoccupied Units	**26,031**	**28,056**	**+ 2,025**	**7.8 %**
Total Residential Units	**47,655**	**52,252**	**+ 4,597**	**9.6 %**
Income of Occupied Residential Units				
Low Income Units	**10,463**	**11,886**	**+ 1,423**	**13.6 %**
Medium Income Units	**4,891**	**5,437**	**+ 546**	**11.2 %**
High Income Units	**6,254**	**6,843**	**+ 589**	**9.4 %**
Total Overnight Visitor Units				
Short Term Rentals	**6,005**	**5,931**	**-74**	**-1.2 %**
Seasonal Units	**17,129**	**18,544**	**+ 1,415**	**8.3 %**
Campground Spots	**2,120**	**2,120**	**0**	**0 %**
Total Lodging Units	**11,107**	**12,052**	**+ 945**	**8.5 %**
Occupied Overnight Visitor Units				
Occupied Short Term Rentals	**2,227**	**2,240**	**+ 13**	**0.6 %**
Occupied Seasonal Units	**6,396**	**6,911**	**+ 515**	**8.1 %**
Occupied Camping Spots	**1,278**	**1,278**	**0**	**0 %**
Occupied Lodging Units	**6,190**	**7,086**	**+ 896**	**14.5 %**
Other Key Data Points				
Commercial Floor Area	**6,327,319**	**6,533,869**	**+ 206,550**	**3.3 %**
Employment	**28,604**	**29,462**	**+ 858**	**3 %**
School Enrollment	**8,887**	**9,992**	**+ 1,105**	**12.4 %**

Forecast Methodology

The overall approach to forecast development was to apply the best available information and data. The development rate forecast was informed by a review of historical development rates, and an assessment of the performance of past forecasts. The forecast differs from past forecasts in at least two ways:

1. More rational development rates – Prior forecasts have generally assumed that full build out of the Region would occur by 2035. Historic development rates have not kept pace with those forecasts (additional detail on observed rates is available in the data trends appendix). This forecast refines past methodologies by placing greater weight on observed development rates.
2. Recent overhaul of development rights system - This is the first forecast since significant changes were made to the development rights system to accelerate attainment of threshold standards and Regional Plan goals and policies. The changes enable easier conversion between types and facilitates the attainment of State housing mandates.

The forecasts contained in this document represent a conservative yet realistic view of the continued build out of the Lake Tahoe Regional Plan. Prior forecasts by TRPA had projected significantly faster growth and a faster consumption of the remaining development rights. The annual rate of consumption for commercial floor area and tourist accommodation units were adjusted to more accurately align with observed trends since the adoption of the 2012 Regional Plan update. Additionally, the forecast assumes that not all of the remaining development potential for commercial floor area and tourist accommodation units will be constructed by 2045.

Staff anticipates that by 2045 the unknown but likely time-limited economic impacts from the COVID pandemic will be replaced by more normal economic forces.[1]

Residential Units

The number of housing units in the region is influenced by market conditions as well as TRPA's development rights system, which caps the total development potential for the region. The residential

[1] Additional detail on the considerations related to COVID-19 are included in an addendum at the end of this document.

occupancy rate of the housing stock is influenced by economic factors, the number of residents, second home ownership, and visitors that frequent the region.

There are currently 47,655 residential units in the Region (based on TRPA records); according to the occupancy rates published by the U.S. Census Bureau 2018 American Community Survey (ACS), an estimated 21,624 residential units (45%) are occupied by full-time residents and 26,031 units (55%) are not occupied by full-time residents (ACS 2018). Currently, approximately 20% of existing residential units in the region are multi-family units (approximately 9,530 units) and 80% of existing units (38,125) are single family units. By 2045, an additional 4,597 units are expected to be constructed, bringing the total number of residential units in the region to 52,252, a 9% increase. This includes the construction of 1,823 additional single-family residential units (40% of additional units) and 2,774 additional multi-family residential units (60% of additional units). Forecasts of residential projects in the three California jurisdictions are sufficient to accommodate the Regional Housing Needs Assessment (RHNA) Cycle 5 (2013-2021) and Cycle 6 (2022-2029). The forecast includes a continuation of the RHNA requirements beyond 2029. These requirements were linearly extrapolated to 2045 based on requirements established to date, and are accommodated in the forecasts.

All remaining residential allocations (2,234) are allocated and constructed in the forecast. This includes the award and construction of all residential bonus units (1,609), and all currently banked residential units (204) by 2045. The forecast also includes the conversion of 100,000 square feet of CFA and 130 TAUs to residential units, which will generate an additional 290 multi-family and 260 single-family units. The projected conversions are consistent with conversion trends since the adoption of the conversion programs and observed development rights utilization rates. The observed trends indicate a net conversion from CFA and TAUs and towards Residential.

Several key assumptions informed the spatial distribution of residential development in the forecast. First, new residential units were allocated to projects known to be in the pipeline, including multi-family and affordable-/moderate-income projects on public lands. This included 580 units expected to be built on California Tahoe Conservancy asset lands[2], redevelopment successor agency[3] parcels and other

[2] See https://tahoe.ca.gov/programs/tahoe-livable-communities/asset-land-sales/ for more details about potential housing development opportunities that have been identified by the California Tahoe Conservancy.
[3] See https://www.placer.ca.gov/3396/Housing for information about potential housing development project opportunities in Placer County.

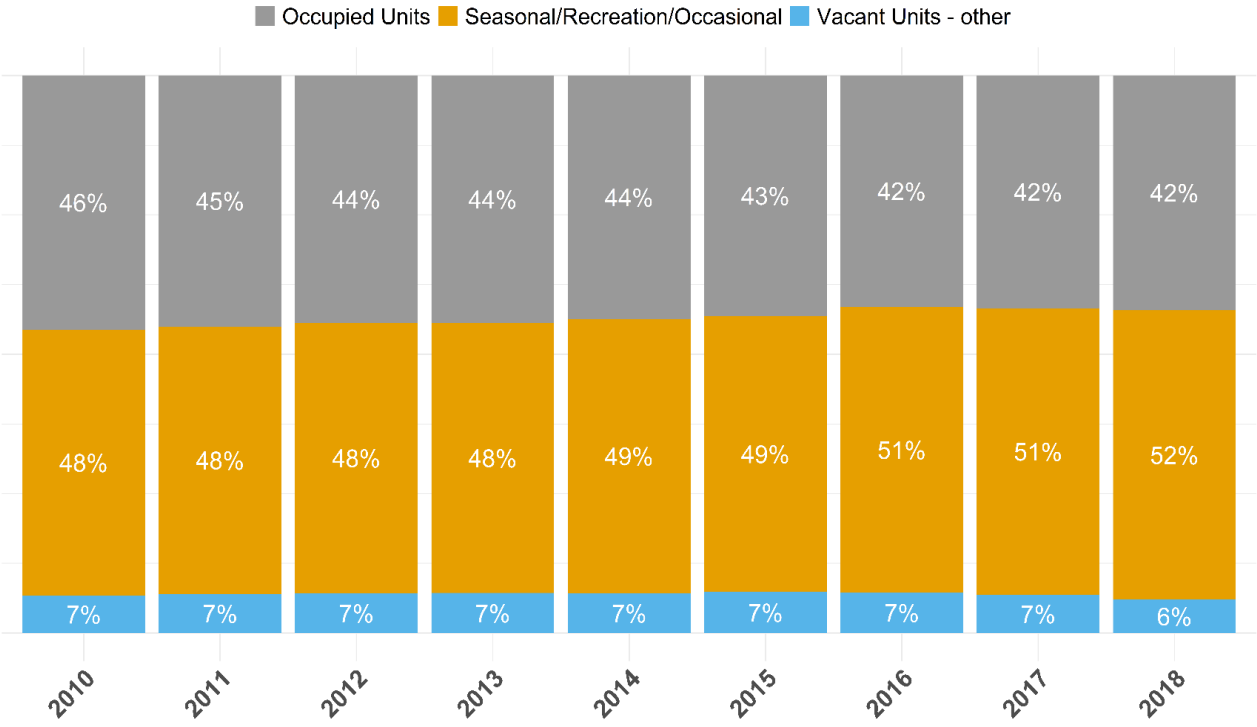
publicly-owned parcels where large multi-family and affordable/moderate-income housing projects are likely to be constructed[4]. For multi-family development on private properties, where the exact number of units to be constructed was not fully known, a computer-generated random selections to distribute units to vacant buildable multi-family and existing underbuilt residential parcels throughout the region. For these parcels, the number of units allocated was 60% of the maximum allowable buildout based on current zoning, coverage constraints, and density restrictions. This assumption is consistent with observed buildout patterns, and conservative in that it distributes new residential development throughout the region (rather than modeling the most compact possible pattern). Multi-family units were only assigned to parcels that are currently zoned for multi-family residential, meet density requirements, and that have remaining coverage available to support additional units. Finally, the remaining private residential units were constructed as single-family units through random assignment to vacant buildable properties throughout the region.

Residential Occupancy rate

The U.S. Census American Community Survey (ACS) estimates that, since 2010, the proportion of occupied housing units in the Tahoe Region has dropped from 46% to 42% in 2018 (U.S. Census Bureau 2020). The remaining 58% of the regional housing supply not occupied by full time residents is classified by the ACS as vacant (ACS classifies houses as "vacant" if they are permanently unoccupied, periodically occupied by seasonal residents, used as a second homes, or rented by visitors, including short-term rentals). In recent years, the total number of seasonal or short-term housing units increased by 24%, from 21,000 in 2010 to 26,000 units in 2018.

[4]Includes housing commitments made by the Tahoe Transportation District as part of the Highway 50 Community Revitalization Project, see https://www.tahoetransportation.org/us50.

Figure 1: Housing Occupancy (ACS 2010-2018)



Despite these trends over the past several years, the forecast includes an increase in the proportion of residential units occupied by full-time residents (owner-occupied and renter-occupied). Three factors are expected to contribute to the shift: 1) Housing Initiatives to promote construction of new workforce, achievable, and affordable housing in the region, 2) Housing initiatives to promote the transition of the existing stock of residential units from second homes and short term rentals to resident-occupied units, and 3) Measure T in the City of South Lake Tahoe. Additional detail on each factor is provided below.

1) *Housing initiatives to promote new workforce and income-restricted housing*: The development forecast includes construction of all of the remaining 1,609 residential units from the TRPA residential bonus unit pool. Residential Bonus Units are awarded as transfer incentives for relocating remote development into town centers, and for the construction of affordable/moderate/achievable housing. New housing constructed with Residential Bonus Units is required by TRPA Code to be deed-restricted to prohibit these housing units from being used for second homes or vacation rentals.
2) *Housing initiatives to transition existing housing stock*: There are a number of initiatives underway to transition second homes, vacation rentals, and vacant house into residential units

for full time residents. The forecast includes significant level of success for these initiatives (and other initiatives unknown at this time) that results in 700 additional units (~1.5% of the 2018 housing stock) occupied by residents in 2035 and 2045. The increase is independent of the forecasted increases described in and 1 and 3.

3) *Measure T in the City of South Lake Tahoe*: Voters passed Measure T in the City of South Lake Tahoe in November 2018. The measure includes broad restrictions on short term rentals (STRs) outside select areas in the city. The restrictions go into effect on December 31, 2021. As a result of the measure, approximately 1,372 currently permitted VHRs will not be renewed. The market value of the existing VHR stock skews higher than median values in the region, so a conservative, but optimistic forecast is that 15% of the units will be transitioned to be occupied by residents (rented or owned); other units are expected to become part of the second home market. A recent study on the economic impact of VHRs in South Lake Tahoe suggested that 10% of existing VHR owners would likely rent to full time if they could no longer use the property as VHR (MBI 2017).

Commercial Floor Area (CFA)

There are currently 556,796 square feet of un-used commercial floor area in TRPA and local jurisdiction community/area plan pools. Since 2013, a total of 41,928 square feet of CFA has been allocated to projects; an average rate of 6,988 square feet of CFA per year. The forecast includes the construction of an additional of 130,067 square feet of CFA by 2035 and 206,550 square feet by 2045. The forecasted rate of development - 7,650 square feet - is just higher than the observed rate since the 2012 Regional Plan, but lower than rates used in prior regional forecasts. CFA was allocated to known projects that have been permitted or are in the planning phase, but not constructed; remaining CFA was allocated to town centers and area plans using the observed proportions from recent allocations.

The forecast includes the conversion of 100,000 square feet of CFA to residential units, consistent with conversion trends since the adoption of the conversion program; recent trends indicate the net conversion from CFA and TAUs towards Residential. The converted CFA is forecasted to result in the construction of 400 additional residential units --200 multifamily units, and 200 single family units. At the end of the forecast period, 250,246 square feet of CFA remains unallocated and thus unconstructed.

Tourist Accommodation Units (TAU)

The forecast includes the construction of an additional 629 TAUs by 2035 and 945 TAUs by 2045. The forecast includes the completed construction of all currently permitted projects using 807 banked TAUs and the use of all 138 awarded TAU bonus units. Not all TAUs allowed in the Regional Plan are forecast to be constructed by 2045; an estimated 230 TAUs will remain undeveloped through 2045 (74 TAU bonus units and 156 banked TAUs). The TAU development rights pool is not exhausted within the forecast horizon, because of the slow rate of TAU right utilization and construction over the past 30 years. No TAUs have been allocated to projects and constructed since adoption of the 2012 Regional Plan, and only 58 TAUs have been allocated since the adoption of the 1987 Regional Plan. TAUs were allocated to projects that are permitted but not yet constructed (Homewood, Boulder Bay, Edgewood Casitas, Tahoe City Lodge, and Chateau/Project 3), and the forecast includes the removal and banking of some existing units. Bonus TAUs were assigned to permitted projects (Homewood, Boulder Bay, Tahoe City Lodge) and no additional allocations other than existing permits were included.

The forecast also includes the conversion of 130 TAUs to residential units, consistent with recent conversion trends since the adoption of the conversion programs; observed trends indicate the net conversion from CFA and TAUs and towards Residential.

Development Rights Forecast Summary

Total development in the Tahoe Region is capped by the Regional Plan. The type and rate of that development is further controlled by a complex system governing development rights in the Region. Development rights are land use units someone must acquire before a property is developed. Development rights include tourist accommodation units (TAUs), single and multi-family residential units of use (RUUs), and commercial floor area (CFA). Residential units of use (RUUs) are formed by combining a potential residential unit of use (PRU) and a residential allocation. The forecast differentiates between when a development right is allocated from TRPA or another jurisdiction's pool and the final use of that development right. Development rights can be utilized in one of two ways; they can be used to construct a project (e.g. a house) or converted to a different type of development right. The forecast is grounded in projections about the utilization, transfer, conversion, and construction of development rights. Tables 2-4 summarize the fate of development rights in the forecast period.

- Table 2 summarizes new construction which influences land use in the future scenarios. Tables 3 and 4 provide background detail on the underlying accounting that enabled the development.

- Table 3 summarizes the expected utilization of development rights in their current type.
- Table 4 summarizes the expected conversion of development rights between types.

The forecast includes the annual construction of 172 residential units, 7,650 square feet of commercial floor area and 35 tourist accommodation units (Table 2).

Table 2: Construction Forecast Summary

Development Right Construction	Annual Construction Rate	2035 Net Change	2045 Net Change
Residential Units			
Total Development of Residential Units	**+172**	**+2,924**	**+4,597**
Commercial Floor Area (in Square Feet)			
Total Utilization of CFA	**+7,650**	**+130,067**	**+206,550**
Tourist Accommodation Units			
Total Development of TAUs	**+35**	**+629**	**+945**

The forecast includes the utilization of allocation pools held by TRPA and local jurisdictions in the area plan, community plan, or plan area statement pools, as well as the use of bonus and incentive pools, special projects pools, and banked development rights (Table 3).

Table 3: Development Rights Utilization Forecast Summary

Development Right Utilization	Annual Utilization Rate	2035 Net Change	2045 Net Change
Residential Units			
Residential Allocations	+83	+1,411	+2,234
Residential Bonus Units	+60	+1,020	+1,609
Banked Residential Development	+8	+136	+204
Total Development of Residential Units	**+151**	**+2,567**	**+4,047**
Commercial Floor Area (in Square Feet)			
Commercial Floor Area Allocations	+6,413	+109,021	+173,142

Commercial Floor Area Allocations (TRPA special projects pool)	+2,963	+50,371	+80,000
Banked Commercial Development	+1,979	+33,643	+53,408
Total Utilization of CFA	**+11,355**	**+130,067**	**+306,550**
Tourist Accommodation Units			
TAU Allocations	+5	+85	+130
TAU Bonus Allocations	+6	+102	+138
Banked TAU Development	+31	+527	+807
Total Development of TAUs	**+42**	**+714**	**+1075**

The forecast includes the conversion of development rights between the various types of development (Table 4). TRPA approved a comprehensive update to Tahoe's development rights system in 2018. This allows conversions between different types of development rights using environmentally-neutral exchange rates and makes development rights simpler to transfer around the Basin, keeping limits on Tahoe's total development potential. The changes make it easier for the private sector to invest in redevelopment projects that benefit Tahoe's environment and communities and provide needed workforce housing. The projected conversions are consistent with conversion trends since the adoption of the conversion programs and observed development rights utilization rates. The observed trends indicate a net conversion that reduces CFA by 3,700 square feet and 5 TAUs and creates an additional 21 residential units each year.

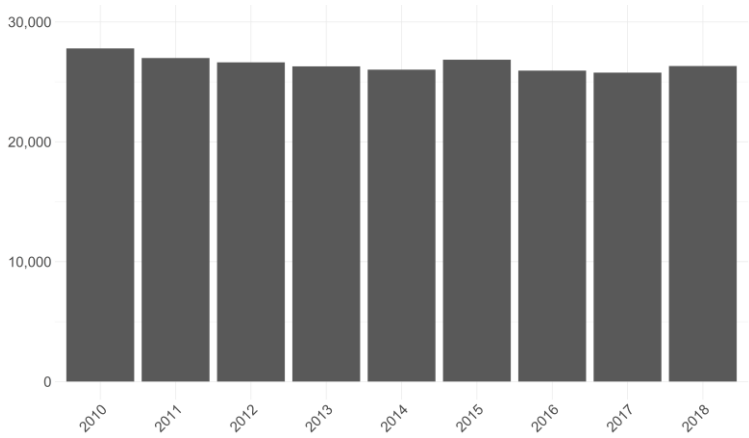
Table 4: Development Rights Conversion Summary

Development Right Conversion	Annual Change as a Result of Conversion	2035 Net Change	2045 Net Change
Residential Units			
Net Development Right Conversions to Residential	+21	+357	+550
Commercial Floor Area (in Square Feet)			
Net Development Right Conversions from CFA to RUU	-3,704	-62,968	-100,000
Tourist Accommodation Units			
Net Development Right Conversions from TAUs to RUU	-5	-85	-130

Employment

The most recent region-wide data estimates that summer-time work opportunities in the Tahoe region increased by 5% between 2014 and 2018, from 26,637 to 28,053 jobs. While employment increased, the number of workers estimated to be living in the region decreased by 6%, from 27,785 in 2010 to 26,314 in 2018 (ACS, 2018). This indicates that an increasing number of workers may be commuting into the region for employment.

Figure 2: Number of Workers (ACS 2010-2018)



The forecast projects a small increase in employment in the region as a result of increased visitation, construction of new CFA and TAUs, and population growth. In the 2018 model base year there are an estimated 28,604 workers in the Tahoe region (some residents hold jobs outside the region). The forecast projects continued growth of jobs in the region, with 572 (+2%) and 858 (+3%) new jobs in the region by 2035 and 2045 respectively. The number of external workers (those commuting into the region for work) is not expected to grow because more workers are expected to find housing locally as a result of the regional housing initiatives

Visitation

The forecast includes an increase in visitation which is influenced by several factors. The Tahoe region is located near and draws visitors from several regions that are projected to experience between 20% and 40% growth in the coming decades (Figure 3, Table 5). The Sacramento Council of Governments (SACOG), predicts that population in the greater Sacramento region[5] will grow 26% by 2045. SACOG models traffic volumes on Interstate-80 and US Highway-50 leading into the Tahoe Region, and forecasts between 18% and 22% increases in volume in the next two decades (SACOG 2019). Farther west, but still within the Tahoe Mega-Region, the Association of Bay Area Governments (ABAG)[6] forecasts 27% population increase by 2040 (MTC & ABAG 2017). To the north and east of Tahoe, RTC-Washoe predicts a 27% growth in population in the Reno/Sparks Metropolitan area[7] by 2040 and the Carson Area MPO[8] predicts a 28% growth in population (CAMPO 2016; RTC-Washoe 2018). Population growth in the mega-region is likely to create increased demand for the recreation opportunities and the unique experience that Tahoe provides.

Figure 3: Tahoe Mega-Region

Table 5: Mega-Region Growth Forecasts

Location	Metric	Growth	Forecast Year	Source
Sacramento Region	Population	+26%	2045	SACOG 2020 MTP/SCS
Sacramento Region	Employment	+25%	2045	SACOG 2020 MTP/SCS
Interstate-80	Traffic Volumes	+22%	2040	SACOG 2020 MTP/SCS
US Highway-50	Traffic Volumes	+18%	2040	SACOG 2020 MTP/SCS
Reno/Sparks Metro	Population	+27%	2040	RTC-Washoe 2040 RTP, 2018
Reno/Sparks Metro	Employment	+37%	2040	RTC-Washoe 2040 RTP, 2018
Carson City Region	Population	+28%	2040	CAMPO 2040 RTP, 2018
San Francisco Region	Population	+27%	2040	ABAG 2040 RTP, 2017

[5] The Sacramento Area Council of Governments (SACOG) includes the counties of El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba and the 22 cities within this six-county region.
[6] The Association of Bay Area Governments (ABAG) region encompasses Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma counties.
[7] Regional Transportation Commission (RTC) of Washoe County, Nevada serves the Reno and Sparks areas along with unincorporated areas of Washoe County.
[8] The Carson Area Metropolitan Planning Organization (CAMPO) covers the Carson City urbanized area, which consists of Carson City, northern Douglas County, and western Lyon County.

Population growth outside the Region over the last 20 years has not translated to a linear increase in visitation into the region. Therefore, the forecast does not project increases in visitation in proportion to the projected growth in the mega-region. It is uncertain why past population growth has not translated in a linear fashion to increased visitation, but working theories include the decline in popularity of the local casinos as the gaming experience has become more widely available, limited tourist accommodation capacity, the limited roadway capacity into the region and associated willingness to travel to the region given the longer travel times.

The visitation forecast is comprised of related but independent projections regarding the expected characteristics of both the number and occupancy of overnight lodging accommodations types, and day visitation. The visitation forecast can be broken down into overnight visitors (staying in Hotels/Motels/Casinos/STRs/Private homes*)* and day visitors. The number of occupied overnight visitor units is forecast to grow by 9% by 2045.

Overnight Visitors in Hotels/Motels/Casinos – In the 2018 model base year, 6,190 of the region's 11,107 TAUs are occupied (56%) during the modeled day. The forecast includes the construction of an additional 945 TAUs by 2045, an 8.5% increase in tourist accommodation units. Forecasted occupancy of TAUs was increased slightly to account for the impact of Measure T in the City of South Lake Tahoe, which is expected to affect where visitors to the city can stay but not the overall demand (MBI 2017). The forecast estimates that 50% of the visitor parties that may have previously stayed overnight in STRs within the City of South Lake Tahoe would now stay in TAUs, because of the expected lower supply of STRs in the City. As a result, the regional overnight lodging occupancy rate (in TAUs) increases from 56% to 59% in the forecast years. As a result of both additional unit availability from new TAU construction and the higher occupancy rate, the actual number of occupied Hotel/Motel/Casino units increases by 14.5% in 2045.

Overnight Visitors in STRs – In 2018, TRPA estimated that there were 6,005 permitted STRs in the Tahoe Region, which comprised approximately 13% of all existing residential units and 23% of the vacant housing units. On the model day, 37% of the units (2,227) are occupied. The forecast projects that both the total number and occupancy of STRs is relatively flat in the forecast years. This projection is highly influenced by the City of South Lake Tahoe's Measure T, which eliminates STRs within most of the City's

jurisdiction. Measure T will reduce the number of available STRs in the City of South Lake Tahoe but is unlikely to reduce the overall regional demand for the home-based stay experience in Tahoe. As a result, the forecast includes the displacement of STRs from the city to other jurisdictions in the region. The result will be more STRs (in absolute and proportional terms) in other jurisdictions in the Region and in areas of the City where STRs are still allowed. As a result of Measure T, approximately 1,372 STRs within the City of South Lake Tahoe but located outside of the Tourist Core area will not have their licenses renewed. During the model analysis period (model day), 508 of those 1,372 STRs were occupied. The forecast assumes that all 508 visitor parties will still visit the region and find overnight accommodations elsewhere. Of the visitor parties that would have been staying at one of the STRs impacted by Measure T, half are forecasted to find accommodations in STRs in the Tourist Core areas within the City of South Lake Tahoe, where STRs remain allowed, or in STRs in other jurisdictions, and half of visitor parties are forecast to shift to accommodations in the casinos, hotels, motels, and resorts in the Region.

Overnight Visitors in Seasonal Units – Seasonal units are residences within the model that are not claimed as the primary residence for the owner. Within the model they could be occupied by the owner, friends of the owner, time-shares, informally rented, but are not accounted for included in the total of STRs. These units comprise approximately 36% of the total housing market in the region, of which 37% were estimated to be occupied on modeled day in the 2018 base year. The forecast maintains these percentages into the forecast years. The proportion of seasonal units in the region has grown in the last 10 years. The proportion of seasonal units is not forecast to continue to increase in the forecast, due to three factors: 1) the construction of additional workforce housing units which cannot be used for second homes, and 2) initiatives focused on making the existing stocking more affordable for workers and residents, and 3) the conversion of some existing vacation rentals in the City of South Lake Tahoe to resident housing because of the Measure T requirements. The forecast projects the occupancy rate of second units will remain the same, maintaining the 37% occupancy of the base year in 2035 and 2045. As a result of the increase in the total number of homes in the Region the number of seasonal units increases by 8% in 2045.

Day Visitors – Day visitation is forecast to increase as a result of population growth in the mega-region, at a similar rate as overnight visitation. Day visitors are one of the more challenging travel parties to forecast. The model assumes the factors that drive overnight visitation are positively correlated with factors driving day visitation. The relationship between these two types of visitors was established as

part of the calibration and validation for the 2018 base year and is not expected to change in the forecast years.

School Enrollment

Like the overall population, school enrollment in the region has decreased in the last two decades, but in most recent years has been relatively steady. Between 1996 and 2018, enrollment in the Lake Tahoe Unified School district in South Lake Tahoe, California decreased by 35%, while enrollment on the Nevada side decreased by 37%, from 1,852 in 2003 to 1,160 in 2019. The forecast projects that school enrollment will increase by 12.4% as new employment (858 additional jobs) and residents (6,417 additional full time residents) are added to the region.

Figure 3: Tahoe - Nevada School Enrollment (2003-19)

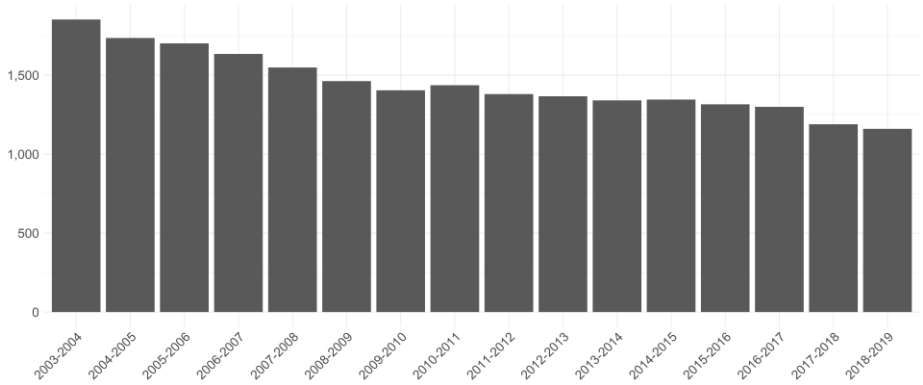
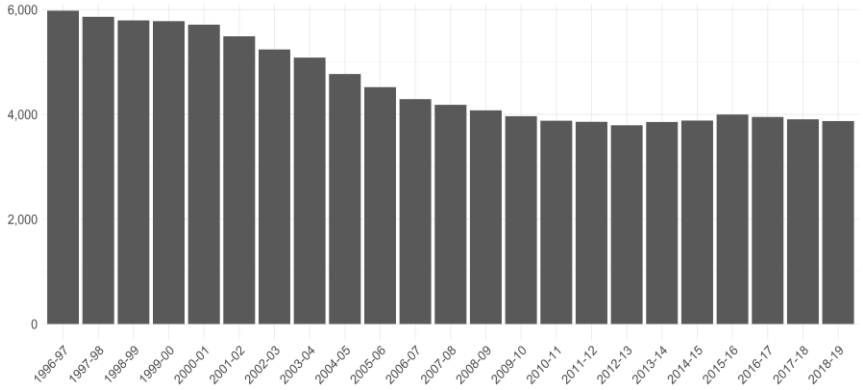


Figure 5: Lake Tahoe Unified School District Enrollment (1996-2018)

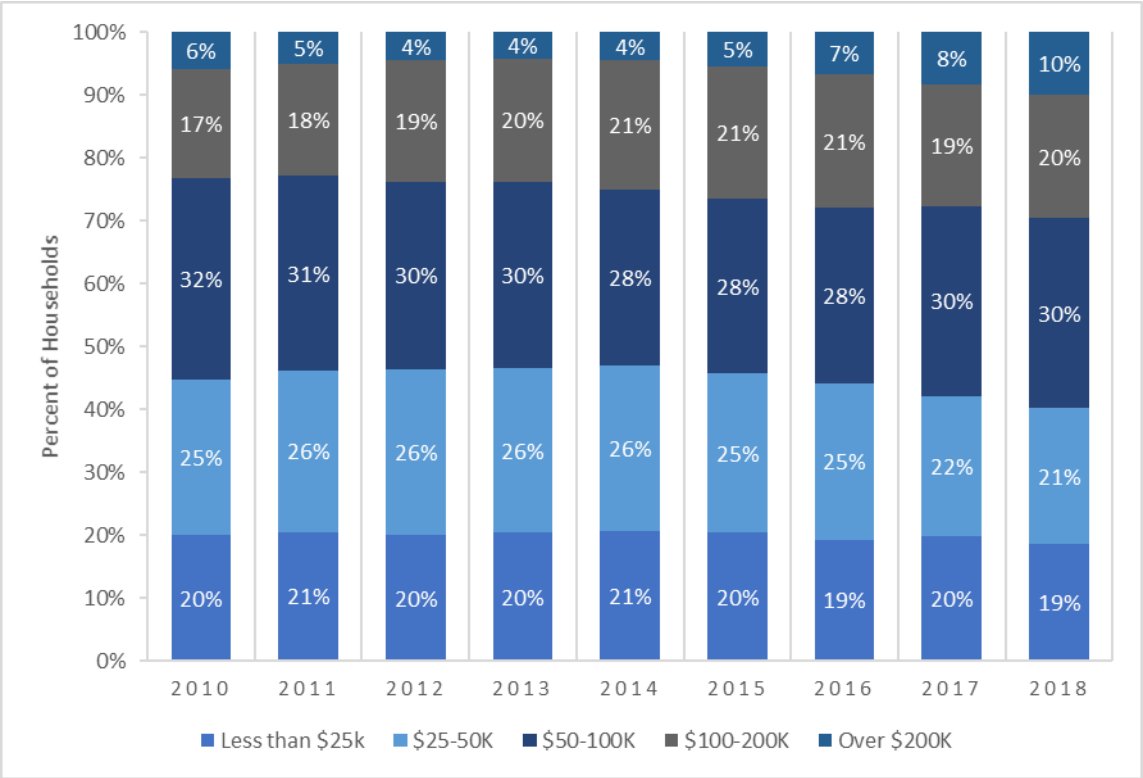


Household Income

Household income is a key characteristic of the residential population, which influences travel behavior. Census data over the last nine years show that household income in the region is trending upwards towards higher incomes (ACS 2010-2018). Median annual income for households nationally rose to $61,937 in 2018, within California it is $75,277, and in Nevada it is $58,646 (Guzman 2019). Median income in the Tahoe Region has grown over the last five years as the region emerged from the Recession and is now close the national average. However, the proportion of households earning less than $25,000/year annually has remained at relatively stable, at about 20% of households. Between 2010 and 2018 the number of households earning over $200,000/year grew by 67% and those earning between $100,000 and $200,000 increased by 11%. Despite these gains, households earning less than $100,000/year outnumber households earning more than $100,000/year by two to one. Some have

suggested the decline in lower-income households has been driven by workers leaving the region in search of more affordable housing. The forecast projects that the relative distribution of household incomes will be maintained at the current level. Initiatives to provide workforce and affordable housing are expected to increase the regional housing availability at the lower end of income distribution.

Figure 7: Household Income Categories (% of Households - ACS 2010-18)



Addendum

COVID-19

The research and majority of the forecasts for the 2020 Regional Transportation Plan were developed prior to the impact of COVID-19 on our community and the world. The immediate impact of COVID-19 on our community has been severe. Both states issued stay-at-home orders and the casinos, ski resorts and many other businesses closed in March 2020, furloughing or laying off thousands of employees. The Lakeside Inn and Casino announced that it would not reopen. The hotels, motels, restaurants, bars, and many of the recreation areas, beaches and parks that are the lifeblood of our tourism-based economy were closed for weeks. The impacts on transportation were apparent in the traffic volumes around the region. In early May, VMT in the counties that make up the Tahoe region was estimated to be down 30-50% from levels observed in the same period in prior years.

The long-term impacts of COVID-19 on the region are uncertain. Some believe that the job losses, business closures, and economic hardship will continue. Others think that urban flight will result in a mass movement from cities to rural areas, as remote work continues and people seek to escape crowded cities for open spaces, resulting in massive population shifts and increased housing needs in the region.

Given this uncertainty, staff recommends maintaining the above assumptions for the forecast scenarios even in light of the COVID -19 pandemic and associated economic downturn. The Harvard Business Review (HBR) recommends that in “moments of unprecedented uncertainty”, one must “know when not to make a forecast” (Saffo, 2007). HBR suggests that “even in periods of dramatic, rapid transformation, there are vastly more elements that do not change than new things that emerge” (Saffo,2007).

Transportation Projects & Strategies Forecast Summary

Transportation Projects

Fixed-route transit projects were directly incorporated into the Travel Demand Model. The Highway 50 Revitalization project was the only non-transit project directly represented in the model.

[describe how projects are incorporated into the modeling]

Transportation Strategies

[insert TRIA documentation]

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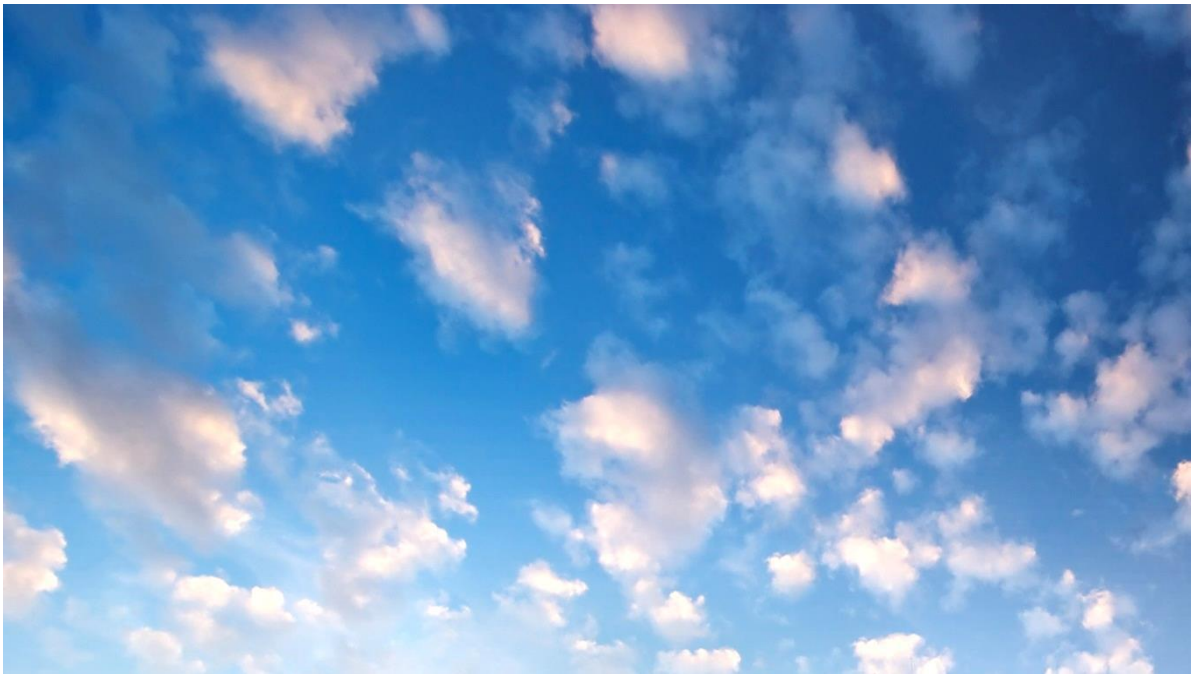
Appendix E

Air Quality Study



2045 Linking Tahoe: Regional Transportation Plan & Sustainable Communities Strategy

Air Quality Study

prepared by

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Long Range & Transportation Planning
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August 2020

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1 Project Description

This report is an analysis of the potential air quality impacts of the Tahoe Regional Planning Agency's (TRPA) proposed 2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The report has been prepared by Rincon Consultants, Inc. under contract to TRPA for use in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA) and TRPA requirements.

As shown in Figure 1, the Plan Area is located in the Lake Tahoe Region and lies across the state line of California and Nevada, between the Sierra Nevada crest and the Carson Range. Approximately two thirds of the region is located in California, with one third within Nevada. The Plan Area contains approximately 325,000 acres, of which approximately 123,000 acres comprise the surface of Lake Tahoe. Lake Tahoe is the dominant feature of the Plan Area and is the primary focus of local environmental regulations to protect its exceptional clarity.

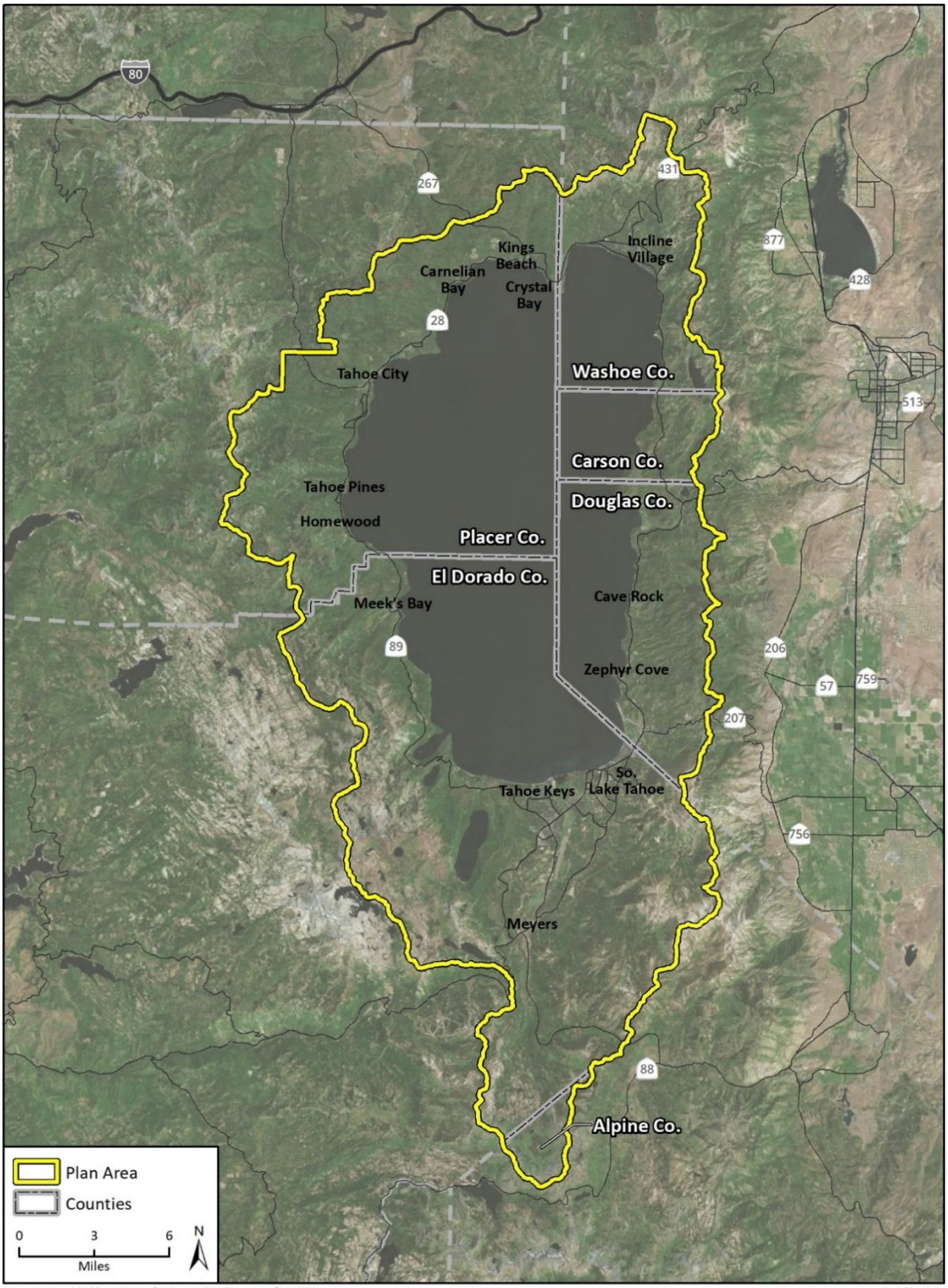
The 2045 RTP is the transportation element of the Lake Tahoe Regional Plan. Every four years, TRPA prepares a RTP/SCS that outlines the overall vision for developing, operating, and maintaining the Lake Tahoe Region's transportation system. This 2045 RTP/SCS builds from the 2017 RTP/SCS to offer innovative strategies that offset transportation impacts including micro-mobility strategies such as e-bikes and e-scooters and new or enhanced inter-regional transit service. The 2045 RTP/SCS's goals, carried over and updated from the 2017 RTP/SCS, are organized around addressing the local community and Tahoe visitor's transportation needs while also meeting state and federal planning and reporting requirements.

Policies have been updated in response to new plans implemented since the 2017 RTP/SCS update as well as, federal and state requirements, and for consistency with local planning efforts. Policies support active transportation, connections between recreational access areas, prioritizing an integrated transit system, collaborate with regional and interregional partners, making efficient use of the existing network through technology, monitoring, increasing safety, and supporting the economic growth and vitality of the region. These policies build from the 2017 RTP/SCS while strengthening and restating some policies for clarity.

New policies were included in the 2045 RTP/SCS to reflect state requirements including California Senate Bill (SB) 375, which set regional targets for reducing greenhouse gas emissions by using the regional transportation planning process; the Americans with Disabilities Act (ADA); and Community Priority Zones, as well as incentivizing new travel models such as micro transit, on-demand mobility services, and the use of electric assisted devices.

The goals and policies concepts as described above were presented to the public and stakeholders, and input from these groups was incorporated into the development of the 2045 RTP/SCS. The land use scenario envisioned by the 2045 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas.

Figure 1 Plan Area



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1.1 Air Quality Background

Local Climate and Topography

The Plan Area lies in the Lake Tahoe Air Basin (LTAB), which is primarily a depression between the crests of the Sierra Nevada and Carson ranges at a surface elevation of 6,226 feet above sea level. The mountains surrounding Lake Tahoe are approximately 8,000 to 9,000 feet high, with some reaching beyond 10,000 feet (TRPA 2016). The bowl shape of the LTAB has significant air quality implications, and there are two dominant meteorological regimes that affect air quality in the basin (TRPA 2016).

The first meteorological regime, thermal inversions, occur when a warm layer of air traps a cold layer of air at the surface of the land and lake. Locally generated air pollutants are often trapped in the "bowl" by frequent inversions that limit the amount of air mixing, which allows pollutants to accumulate. Inversions most frequently occur during the winter in the LTAB, however are common throughout the year. Often, wintertime inversions result in a layer of wood smoke, mostly from woodburning stoves, which can be seen over Lake Tahoe.

The second meteorological regime affecting air quality in the LTAB is the atmospheric transportation of pollutants from the Sacramento Valley and San Francisco Bay Area. Lake Tahoe's location directly to the east of the crest of the Sierra Nevada mountain range allows prevailing easterly winds, combined with local mountain upslope winds, to bring air from populated regions west of the Sierra to the LTAB. The strength of this pattern depends on the amount of heat, usually strongest in summer beginning in April and ending in late October.

Air Pollutants of Primary Concern

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants, referred to as "criteria pollutants." Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards (AAQS) for criteria pollutants. Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere and include carbon monoxide (CO), volatile organic compounds (VOC)/reactive organic gasses (ROG) [1], nitrogen oxides (NO_X), fine particulate matter (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2) and lead (Pb). Secondary criteria pollutants are created by atmospheric chemical and photochemical reactions. ROG, together with nitrogen oxides, form the building blocks for the creation of photochemical (secondary) pollutants. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The characteristics, sources and effects of critical air contaminants are provided below.

Ozone

A photochemical reaction (triggered by sunlight) between NO_X and reactive organic compounds (ROG) produces ozone. NO_X is formed during fuel combustion and ROGs form during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in substantial concentrations between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible

[1] CARB defines VOC and ROG similarly as, "any compound of carbon excluding CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions and the term ROG is used in this report.

changes in lung function. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide

CO is a local pollutant found in high concentrations only near fuel combustion equipment and other sources of CO. CO is a colorless, odorless poisonous gas whose primary source is automobile traffic. Elevated concentrations are therefore usually found near areas of high traffic volume. CO's health effects relate to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulty in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Nitrogen Dioxide

NO_2 is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. NO_2 absorbs blue light and causes a reddish-brown cast to the atmosphere with accompanying reduced visibility. It can contribute to the formation of ozone/smog and acid rain.

Sulfur Dioxide

SO_2 is a colorless, pungent, irritating gas formed primarily by the combustion of sulfur-containing fossil fuels. When SO_2 oxidizes in the atmosphere, it forms sulfur trioxide (SO_3). Collectively, these pollutants are referred to as sulfur oxides (SO_X). In humid atmospheres, SO_2 can also form sulfuric acid mist, which can eventually react to produce sulfate particulates that can inhibit visibility. Combustion of high sulfur-content fuels is the major source, while chemical plants, sulfur recovery plants, and metal processing are minor contributors. At sufficiently high concentrations, SO_2 irritates the upper respiratory tract. At lower concentrations, when in conjunction with particulates, SO_2 appears to do still greater harm by injuring lung tissues. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. Sulfur dioxide causes respiratory irritation, including wheezing, shortness of breath, and coughing. Long-term SO_2 exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease. Sulfur oxides, in combination with moisture and oxygen, can yellow leaves on plants, dissolve marble, and eat away iron and steel.

Suspended Particulates

Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The particulates that are of particular concern are PM_{10} (small particulate matter that measures no more than 10 microns in diameter) and $PM_{2.5}$ (fine particulate that measures no more than 2.5 microns in diameter). The characteristics, sources, and potential health effects associated with the PM_{10} and $PM_{2.5}$ can be different. Major man-made sources of PM_{10} are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources include windblown dust, wildfire smoke, and sea spray salt. The finer $PM_{2.5}$ particulates are generally associated with combustion processes as well as formation in the atmosphere as a secondary

pollutant through chemical reactions. Elevated levels of PM_{10} can cause respiratory irritation, reduced lung function, aggravation of cardiovascular disease, and cancer. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. Elevated levels of $PM_{2.5}$ can cause respiratory stress and decreased lung function and increase the risk of long-term disease. More than half of the small and fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Lead

Lead (Pb) is a metal found naturally in the environment, as well as in manufacturing products. Lead occurs in the atmosphere as particulate matter. The major sources of Pb emissions historically have been mobile and industrial sources. In the early 1970s, the U.S. EPA set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The U.S. EPA completed the ban prohibiting the use of leaded gasoline in highway vehicles in December 1995. As a result of the U.S. EPA's regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries in part due to national emissions standards for hazardous air pollutants (U.S. EPA 2013). As a result of phasing out leaded gasoline, metal processing is currently the primary source of Pb emissions. The highest level of Pb in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. Lead may cause a range of health effects, including anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases). Demolition of buildings containing lead-based paint is regulated by existing laws and regulations, including California Code of Regulations Title 17, Division 1, Chapter 8 and Senate Bill 460, to reduce or eliminate the risk to nearby receptors. Furthermore, the proposed project does not include any stationary sources of lead emissions. Therefore, implementation of the project would not result in substantial emissions of lead, and this pollutant is not discussed further in this analysis.

Toxic Air Contaminants

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs include both organic and inorganic chemical substances. One of the main sources of TACs in the LTAB is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM; California Air Resources Board [CARB] 2011); however, TACs may be emitted from a

variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

1.2 Regulatory Setting

Federal and California Clean Air Act

The federal CAA governs air quality in the United States, which is administered by the U.S. EPA at the federal level. Air quality in California is also governed by regulations under the California CAA, which is administered by the CARB at the State level. At the regional and local levels, local air districts such as Air Quality Management Districts (AQMD) and Air Pollution Control Districts (APCD) typically administer the federal and California CAA. Table 1 summarizes the current (2020) NAAQS and CAAQS. The LTAB is currently in attainment of all NAAQS and CAAQS with the exception of the State PM_{10} standard.

Table 1 Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards[1]	California Standards
Ozone	1-Hour	–	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
CO	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
NO_2	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
SO_2	Annual	.030 ppm	–
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	–	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
PM_{25}	Annual	12 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	–
Pb	30-Day Average	–	1.5 µg/m^3
	3-Month Average	0.15 µg/m^3	–
Visibility Reducing Particles	8-Hour	–	Extinction of 0.23 per kilometer[2]
Sulfates	24-Hour	–	25 µg/m^3
Hydrogen Sulfide	1-Hour	–	0.03 ppm (42 µg/m^3)
Vinyl Chloride	24-Hour	–	0.01 ppm (26 µg/m^3)

ppm = parts per million; µg/m^3 = micrograms per cubic meter

[1] Nevada does not have state specific air quality standards and applies the federal primary standards.

[2] In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: Desert Research Institute. Tahoe Regional Planning Agency Ambient Air Monitoring Program Annual Report 2018. 2019. https://monitoring.laketahoeinfo.org/MonitoringProgram/Detail/67.

Federal

The U.S. EPA is responsible for enforcing the federal CAA, which defines nonattainment areas as geographic regions designated as not meeting one or more of the national ambient air quality standards (NAAQS). The federal CAA requires that a State Implementation Plan (SIP) be prepared for each nonattainment area and a maintenance plan be prepared for each former nonattainment area that subsequently demonstrated compliance with the standards. A SIP is a state's air quality control plans and rules, approved by the U.S. EPA. Section 176(c) of the federal CAA provides that federal agencies cannot engage, support, or provide financial assistance for licensing, permitting, or approving any project unless the project conforms to the applicable SIP. The state and the U.S. EPA's goals are to eliminate or reduce the severity and number of violations of the NAAQS and to achieve expeditious attainment of these standards.

The U.S. EPA also regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g. beyond the outer continental shelf) and establishes various emission standards, including those for vehicles.

Transportation Conformity Analysis

Pursuant to 176(c) of the federal CAA (42 USC §7506(c)), Metropolitan Planning Organizations (MPO) and the United States Department of Transportation (U.S. DOT) must make a determination that the RTP and the Regional Transportation Improvement Program (RTIP) conform to the SIP for air quality. Section 176(c) of the CAA, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits agencies of the Federal Government from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. The transportation conformity regulations provided in Code of Federal Regulations (CFR) Title 40, Chapter I, Part 51, Subpart T, Section 51.392-51.400, 51.404, 51.410-51.450, 51.460, and 51.462 were adopted by Placer County APCD in Rule 509 and El Dorado County AQMD in Rule 503; however, PCACPD Rule 509 exempts the Lake Tahoe Air Basin portion of Placer County from compliance with this rule. Currently, the Plan Area is in conformance for all criteria pollutants under federal air quality standards.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the U.S. EPA and the National Highway Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The Part One Rule revokes California's authority to set its own GHG emissions standards and zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, the CARB released off-model adjustment factors on November 20, 2019 to adjust criteria air pollutant emissions outputs from CARB's Emission Factor model (EMFAC) (CARB 2019a).

State

California

CALIFORNIA AIR RESOURCES BOARD

In California, the CARB is responsible for meeting the State requirements of the federal CAA, administering the California CAA and establishing the California ambient air quality standards (CAAQS). The California CAA, as amended in 1992, requires all air districts in the State to endeavor

to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. The CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The CARB established passenger vehicle fuel specifications, which became effective in March 1996. More recently, the CARB developed a new certification fuel for 2015 and newer vehicles, which contains 10 percent ethanol by volume (E10). In addition, the California Legislature enacted Senate Bill 656 (SB 656) to reduce public exposure of airborne particulate matter in 2003, which required the CARB to develop and adopt a list of readily available, feasible and cost-effective control measures that could be employed by the CARB and local air districts. The CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Office of Environmental Health Hazard Assessment

The Office of Environmental Health Hazard Assessment (OEHHA) is the State's lead agency for the assessment of health risks posed by environmental contaminants. OEHHA, which is an office within the California Environmental Protection Agency (CalEPA), aims to protect human health and the environment through scientific evaluation of risks posed by hazardous substances. In addition, OEHHA develops health-protective exposure levels for contaminants in air, water and soil as guidance for regulatory agencies and the public. These include public health goals for contaminants in drinking water and both cancer potency factors and non-cancer reference exposure levels for the Air Toxics Hot Spots Program.

The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill 2588) was enacted in 1987 to require stationary sources to report the types and quantities of substances identified as having a localized health risk. This act aims to ascertain health risks, notify nearby residents of significant risks and to reduce significant risks to acceptable levels. Furthermore, CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* recommends that local agencies avoid siting new, sensitive land uses within specific distances of potential sources of TACs, such as freeways and high-traffic roads, distribution centers, railroads and ports (CARB 2005). Specifically, the CARB recommends that local agencies avoid siting new, sensitive land uses within 500 feet of a freeway. The primary concern is the effect of diesel exhaust particulate, a TAC, on sensitive uses.

2004 Revisions to the Carbon Monoxide Maintenance Plan

In 2004, the CARB approved a revision to the SIP that consists of an update to CO maintenance plan for ten areas within California that had attained the federal air quality standard for CO since the early 1990s. This included North Lake Tahoe and South Lake Tahoe. The 2004 revisions to the Maintenance Plan (2004 CO Maintenance Plan) were an update to the 1998 Carbon Monoxide Maintenance Plan and show how attainment would be maintained through 2018 and beyond. Part of the maintenance strategy involves allocation of transportation emissions budgets to the maintenance areas as approved by the EPA.

TRPA Carbon Monoxide Conformity

On March 21, 2018, the U.S. EPA issued a letter stating that as of June 1, 2018, transportation conformity requirements no longer apply for the CO NAAQS for Federal Highway Administration/Federal Transit Association projects as defined in 40 CFR 93.101 in California because the standard 20-year maintenance planning period per 40 CFR 93.102(b)(4) has ended and

the maintenance plan does not specify a longer maintenance period (U.S. EPA 2018). Therefore, the Plan Air is in attainment with the SIP.

Nevada

At the state level, the Nevada Bureau of Air Pollution Control (BAPC) and Bureau of Air Quality Planning (BAQP) are the agencies responsible for coordination and oversight of state air pollution control programs, including the Chemical Accident Prevention Program, and air quality surveillance in Nevada. The agencies achieve and maintain air quality conditions in Douglas and Washoe Counties and Carson City Rural District through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air-quality issues. The clean air strategy of the BAPC and BAQP include the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAPC and BAQP also oversee compliance with Nevada and federal laws; prepare SIPs; conduct inspections; observe and review source test data, excess emission reports, and compliance certification reports; investigate air quality complaints; operate an ambient air quality monitoring network; develop and implement strategies to control air pollution from motor vehicles, convert motor vehicle fleets to use cleaner-burning alternative fuels; and coordinate and facilitate prescribed outdoor burning.

NEVADA CARBON MONOXIDE LIMITED MAINTENANCE PLAN

On April 3, 2012, the State of Nevada submitted to the U.S. EPA a second 10-year limited maintenance plan (LMP) for the Lake Tahoe Nevada Area for the CO NAAQS. An LMP is an option whereby an area's maintenance demonstration is considered to be satisfied for “not classified” areas if the monitoring data show the design value is at or below 7.65 ppm, or 85 percent of the level of the 8-hour CO NAAQS. The 2012 LMP addressed maintenance of the CO NAAQS for a second 10-year period beyond the original 10-year maintenance period, which began in 2003 when the State of Nevada submitted a resignation request for the Lake Tahoe Nevada Area from nonattainment to attainment for the CO NAAQS. On August 26, 2016, the State amended the 2012 submittal with a supplemental SIP submittal, and thereby approved the 2012 plan.

Local

Tahoe Regional Planning Agency

TRPA is a regional planning agency that oversees development in Lake Tahoe. It was created in 1969 by the Bi-State Compact, approved by governors and lawmakers in California and Nevada in 1969 and ratified by the United States Congress. The Bi-State Compact was revised in 1980, giving TRPA authority to adopt environmental quality standards (called thresholds) and to enforce ordinances designed to achieve the thresholds. The TRPA Governing Board adopted the thresholds in 1982. TRPA is a separate legal entity governed by a body of seven voting delegates from California and seven voting delegates from Nevada. There is also a non-voting federal representative to the Governing Board. TRPA prepares the regional land use plan for the Lake Tahoe region, serves as the metropolitan planning organization for the Plan Area, and retains authority over both land use and transportation planning decisions for the Lake Tahoe region.

Attainment of air quality standards in the Lake Tahoe Region is under the jurisdiction of the TRPA Bi-State Tahoe Regional Planning Compact, which works with local air districts (El Dorado County AQMD and Placer County APCD) to assure compliance with TRPA threshold standards and federal,

state, and local standards for air quality and visibility. The TRPA Bi-State Compact recognizes air as a natural resource and requires that TRPA establish environmental threshold carrying capacity standards for air quality. The Bi-State Compact directs TRPA to develop a land use plan that considers air resources, as well as a transportation plan that reduces air pollution from motor vehicles. TRPA is also required to attain federal, state, and local air quality standards for the portions of the Plan Area in which they apply. The Air Quality Sub-element and Transportation Element of the TRPA Regional Plan establish Goals and Policies to achieve and maintain TRPA's air quality thresholds and all applicable federal, state, and local standards for air quality.

LAKE TAHOE REGIONAL PLAN

The Lake Tahoe Regional Plan (Plan) is a regulatory framework that includes several initiatives and documents, last updated in 2012. The Bi-State Compact requires TRPA to create a Regional Plan to establish a balance, or equilibrium, between the natural environment and the human-made environment. The Plan emphasizes an improvement in the quality of development in the Region and in the quality of the natural environment. Specific components of the Plan and how they relate to air quality are described below.

Goals and Policies

The goals and policies of the Lake Tahoe Regional Plan are designed to achieve and maintain adopted environmental thresholds and are implemented through the Code of Ordinances, Environmental Improvement Program, and Transportation Improvement Plan (with the Tahoe Metropolitan Planning Organization). The Plan Goals and Policies, Attachments and Maps present the overall approach to meeting TRPA's environmental thresholds. A key component of the goals and policies identifies fundamental philosophies directing land use and development in the Lake Tahoe Basin. The Land Use Element of the Plan's Goals and Policies document consists of seven sub-elements, including the Air Quality Sub-element.

TRPA has jurisdiction within the LTAB-portion of Placer and El Dorado Counties in regard to air quality. Therefore, the Air Quality Sub-element focuses on achieving the NAAQS and CAAQS, as well as special TRPA-adopted regional and sub regional visibility standards, and on reducing the deposition of nitrate from NO_X emitted by vehicles. The Code and the RTP contain specific measures designed to monitor and achieve the air quality goals and policies of the Plan.

Code of Ordinances

The Code of Ordinances compiles all laws and ordinances needed to implement the Goal and Policies of the Plan. Permit applicants generally utilize the Code of Ordinances to plan their projects, and TRPA regularly amends the Code of Ordinances to improve its effectiveness and clarity. Applicable provisions of Chapter 65, *Air Quality and Transportation,* of the TRPA Code of Ordinances are described below:

- Chapter 33—*Grading and Construction*. Chapter 33 includes requirements for grading and construction activity. Grading and earth disturbance ais allowed only between May 1 and October 15 unless an exemption is granted by TRPA when best management practices (BMPs) to retain soil on site and control dust can be implemented.
- Chapter 65.1—*Air Quality Control*. The provisions of Chapter 65.1 apply to direct sources of air pollution in the Plan Area, including certain motor vehicles registered in the Plan Area, combustion heaters installed, open burning and stationary sources of air pollution, and idling combustion engines. Provisions potentially applicable to the 2045 RTP/SCS are provided below.

- Section 65.1.3, *Vehicle Inspection and Maintenance Program*, states that to avoid duplication of effort in implementation of an inspection/maintenance program for certain vehicles registered in the CO nonattainment area, TRPA shall work with the affected state agencies to plan for applying state inspection/maintenance programs to the Lake Tahoe Region.
- Section 65.1.4, *Combustion Appliances*, defines air quality standards to be met by gas heaters and wood heaters.
- Section 65.1.8, *Idling Restrictions*, states that no person shall cause a combustion engine in a parked auto, truck, bus, or boat to idle for more than 30 consecutive minutes in the designated plan areas (with limited exemptions).

TRPA Best Construction Practices Policy for Construction Emissions

TRPA is committed to continue to monitor and adaptively manage construction emissions, including criteria air pollutants, through existing permit compliance programs. Pre-grade inspections occur for every permitted project prior to any ground-disturbing activities. These inspections verify that all required permit conditions, such as the location of staging areas and the use of approved power sources, are in place prior to construction activities. In addition, compliance inspections occur for projects throughout construction to verify compliance with all permit requirements. If an inspection determines that a project is not in compliance with permit conditions, enforcement actions are taken, which can include stopping activity at the construction site and monetary fines.

In addition to existing permit limits, TRPA has developed a Best Construction Practices Policy for Construction Emissions, pursuant to the requirements of 2012 RTP/SCS Environmental Impact Report (EIR)/Environmental Impact Study (EIS) mitigation measures adopted by the TRPA Governing Board. The policy and related conditions were approved at the November 20, 2013 meeting of the TRPA Governing Board. The policy addresses construction-generated emissions of air pollutants and GHGs associated with development under the Lake Tahoe Regional Plan. The following items constitute TRPA's Best Construction Practices Policy for Construction Emissions:

- TRPA Code Section 65.8.1 limits idling for certain diesel engines to no longer than 5 minutes in California and 15 minutes in Nevada.
- TRPA's Standard Conditions of Approval for projects involving grading and residential projects include:
  - Limit idling time for diesel powered vehicles exceeding 10,000 pounds in Gross Vehicle Weight and self-propelled equipment exceeding 25 horsepower (hp) to no more than 15 minutes in Nevada and 5 minutes in California, or as otherwise required by state or local permits;
  - Utilize existing power sources (e.g., power poles) or clean-fuel generators rather than temporary diesel power generators, wherever feasible; and
  - Locate construction staging areas as far as feasible from sensitive air pollution receptors (e.g., schools or hospitals).

The standard conditions of approval also include a requirement for residential and grading projects for inclusion of dust control measures where earth-moving activities would occur.

- Implementation of a Contractor Recognition Program to incentivize exceedance of regulatory requirements related to emissions-reducing construction practices.

- Implementation of a Woodstove Rebate Program for existing residence to help offset emissions generated from construction by reducing PM_{10}, reactive organic gases (ROG), and NO_X emissions from existing non-compliant woodstoves.

The overall effectiveness of these measures and other efforts to attain and maintain air quality standards continue to be monitored through a comprehensive multi-agency air quality program. The existing air quality monitoring program is being expanded to ensure adequate data continues to be available to assess the status and trends of a variety of constituents. In 2011, TRPA established additional ozone and PM monitoring at the Stateline, Nevada Monitoring Site. Working under a cooperative agreement with TRPA, Placer County APCD installed additional ozone and PM_{10} monitoring stations in Tahoe City and Kings Beach in 2011.[2] In 2013, TRPA installed a fourth Visibility Monitoring Station and an ozone monitor in South Lake Tahoe.

According to Chapter 16 of the TRPA Code, if ongoing monitoring determines that the Best Construction Practices and other efforts to achieve adopted air quality standards have not been successful, then TRPA may develop and implement additional compliance measures. Additional compliance measures may include additional required construction best practices, an expanded rebate program to replace non-conforming woodstoves or other emission-producing appliances, or restrictions on other emission sources such as off-highway vehicles or boats.

PLACER COUNTY TAHOE BASIN AREA PLAN

The Placer County Tahoe Basin Area Plan (Area Plan) was adopted in 2017 and is a component of the Lake Tahoe Regional Plan and the Placer County General Plan. The Planning area includes the portions of Placer County located within the Lake Tahoe Regional Planning area, including the north and west shores of Lake Tahoe. The following policies from Placer County APCD's Placer County Tahoe Basin Area Plan apply to air quality in the LTAB.

- Policy AQ-P-1: Continue to participate in the Lake Tahoe Environmental Improvement Program (EIP) and coordinate with other agencies to identify and secure funding for air quality improvement projects.
- Policy AQ-P-2: Continue to implement federal, state and local air quality protection programs through the Placer County Air Pollution Control District.
- Policy AQ-P-3: Include qualifying air quality improvement projects in TMDL Pollutant Load Reduction Plans (PLRPs).
- Policy AQ-P-4: Prioritize projects and services that reduce vehicle miles travelled (VMT) and support alternative modes of transportation.
- Policy AQ-P-5: Accelerate air quality improvement by implementing Regional Plan incentives for redevelopment within town centers and the transfer of development from outlying areas to town centers.
- Policy AQ-P-6: Continue to implement the mPOWER incentive program to reduce greenhouse gas emissions from buildings and other site improvements.
- Policy AQ-P-7: Implement building design standards and design capital improvements to reduce energy consumption and where feasible to incorporate alternative energy production.
- Policy AQ-P-8: All TRPA policies, ordinances and programs related to Air Quality will remain in effect.

[2] The monitoring station at Kings Beach is no longer operated.

Previous Environmental Review

The air quality attainment status in the LTAB has not changed from 2017 to 2020 relative to the CAAQS, NAAQS, and TRPA ambient air quality standards. In addition, the CAAQS, NAAQS, and TRPA ambient air quality standards have not been substantially revised since environmental review of the updated RTP/SCS in 2017. The 2017 RTP/SCS IS/IEC examined the air quality setting and potential air quality impacts resulting from changes in the 2017 RTP/SCS compared to the 2012 RTP/SCS (TRPA 2017). The analysis included calculating construction-generated and operational air quality impacts from new transportation infrastructure projects, and the removal of four projects, as proposed in the 2017 RTP/SCS. As concluded in the environmental analysis for the 2017 RTP/SCS, the LTAB was in a moderate maintenance area for CO NAAQS, and the LTAB was in a nonattainment-transitional area for ozone and a nonattainment area for PM_{10} for the CAAQS. Since that time, the LTAB has been designated attainment for the ozone CAAQS and CO NAAQS and a nonattainment area for the PM_{10} CAAQS. The LTAB has remained in attainment for all other pollutants for the NAAQS and CAAQS.

The analysis in this report for the 2045 RTP/SCS is tiered from the air quality impact analysis contained in the 2017 RTP/SCS IS/IEC, supplemented by project-specific analysis. By tiering from the 2017 RTP/SCS IS/IEC, the analysis in this section relies on the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC for a discussion of general background and setting information for this environmental topic area; overall growth-related issues; issues that were evaluated in sufficient detail in the 2017 RTP/SCS IS/IEC for which there is no significant new information or change in circumstances that would require further analysis; and an assessment of cumulative impacts. The analysis of air quality impacts conforms to the methodologies recommended in the Appendix G of the *CEQA Guidelines* and TRPA's Environmental Threshold Carrying Capacities (threshold standards). These guidelines include thresholds for air quality impacts associated with both construction and operation of proposed projects.

2 Impact Analysis

2.1 Significance Thresholds

This analysis follows the guidance and methodologies recommended in CEQA Appendix G and TRPA's *Initial Environmental Checklist*. The following CEQA Appendix G criteria were identified for determining whether a project's impacts would have a significant impact on air quality:

1. Conflict with or obstruct implementation of the applicable air quality plan?
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
3. Expose sensitive receptors to substantial pollutant concentrations?
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The following criteria were identified in the TRPA *Initial Environmental Checklist* for determining whether a project's impacts would have a significant impact on air quality:

1. Result in substantial air pollutant emissions? (TRPA 2a)
2. Result in deterioration of ambient (existing) air quality? (TRPA 2b)
3. Result in the creation of objectionable odors? (TRPA 2c)
4. Result in the alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)
5. Result in increased use of diesel fuel? (TRPA 2e)

TRPA Environmental Threshold Carrying Capacities

In 1982, TRPA adopted nine environmental threshold carrying capacities, which set environmental standards for the LTAB and indirectly define the capacity of the Plan Area to accommodate additional land development. Thresholds define the environmental quality goals that the Regional Plan is required to achieve for matters including water quality, air quality, soil conservation, vegetation protection, fisheries, wildlife, scenic resources, noise and recreation. TRPA has established air quality thresholds that address CO, ozone, regional and sub-regional visibility, and nitrate deposition.

TRPA also has its own air quality standards, which can be found as a part of the 2015 Threshold Evaluation Report, which was released by TRPA in September 2016. This updated the 2011 Threshold Evaluation Report used in the 2012 RTP/SCS EIR/EIS to determine the region's attainment of TRPA AAQS. The report generally found that air quality in the region either remained the same or improved for most pollutant standards, similar to the designations made in 2011 except for the highest 8-hour average concentration of ozone, which moderately improved since 2011 but had not met TRPA's targets. In the 2011 Threshold Evaluation Report, TRPA's standards for 8-hour concentration of ozone were met. TRPA's targets for the 24-hour PM_{10} concentration were not met in either the 2011 or 2016 Threshold Evaluation Report. CO targets were met despite the changes to TRPA's threshold standard for CO. There has been no subsequent update to the 2015 Threshold Evaluation Report since the 2017 RTP/SCS.

TRPA's air quality threshold standards and how they address CAAQS and NAAQS for LTAB regional air quality are shown in Table 2.

Placer County APCD Revised Thresholds of Significance

On October 13, 2016, Placer County APCD adopted revised CEQA thresholds of significance for criteria pollutant emissions (Placer County APCD 2016a). The revised thresholds are supported by Placer County APCD's *California Environmental Quality Act Thresholds of Significance Justification Report* released in September 2016 (Placer County APCD 2016b) and were used in the evaluation of impacts related to the 2017 RTP/SCS IS/IEC occurring within the Placer County portion of the LTAB. Based on the Placer County APCD thresholds of significance, a project would result in a significant project-level air quality impact if any of the following would occur:

- A net increase in short-term construction-related emissions of ROG, NO_X, or PM_{10} that exceeds mass emissions of 82 pounds per day in Placer County;
- A net increase in long-term operation-related (regional) emissions of ROG or NO_X that exceeds mass emissions of 55 pounds per day or a net increase in long-term operation-related (regional) emissions of PM_{10} that exceeds mass emissions of 82 pounds per day in Placer County; and/or
- Exposure of sensitive receptors to TAC emissions that would exceed 10 in 1 million for the carcinogenic risk (i.e., the risk of contracting cancer) or a non-carcinogenic Hazard Index of 1 for the maximally exposed individual.

In addition, a project would result in a cumulatively considerable contribution to a cumulative air quality impact if it would result in a net increase in long-term operation-related (regional) emissions of ROG or NO_X that exceed 55 pounds per day or a net increase in long-term operation-related (regional) emissions of PM_{10} that exceeds 82 pounds per day.

El Dorado County AQMD Thresholds of Significance

In February 2002, El Dorado County AQMD adopted CEQA thresholds of significance for criteria pollutant emissions. The revised thresholds are supported by El Dorado County AQMD's *Determining Significance of Air Quality Impact Under the California Environmental Quality Act (CEQA)*, released in February 2002, and were used in the evaluation of impacts related to the 2012 RTP/SCS EIR/IES and 2017 RTP/SCS IS/IEC occurring within the El Dorado County portion of the LTAB. Based on the El Dorado County AQMD thresholds of significance, a project would result in a significant project-level air quality impact if any of the following would occur:

- The project would result in construction or operational emissions of ROG or NO_x in excess of 82 pounds per day. Special requirements for determining significance may apply in the LTAB as imposed by TRPA in interpreting its 0.08 ppm one-hour significance threshold for ozone. However, per El Dorado AQMD guidance, "there is no reason to adopt a more stringent significance threshold for individual projects in the Tahoe region for CEQA purposes in light of the TRPA threshold…because there is no direct relationship between the TRPA threshold, which is expressed as an ozone concentration in parts per million, and the CEQA ozone precursor significance thresholds designated above, which are expressed as mass emissions. Accordingly, the same criteria are considered appropriate for the LTAB portion of the county as well as the Mountain Counties Air Basin portion" (El Dorado AQMD 2002).

Table 2 TRPA Air Quality Threshold Standards

Pollutant	Name of Standard	Standard Type	Adopted TRPA Threshold Standard (TRPA Resolution 82-11)	Applicable State and Federal Standards	TRPA Indicator
Carbon Monoxide (CO)	8-Hour CO	Numerical	Maintain CO concentrations at or below 6 ppm	California and Nevada: Not to exceed 6 ppm Federal: Not to exceed 9 ppm more than once per year	First and second highest CO concentration measured at Stateline, Nevada monitoring station
	1-Hour CO	Numerical (State Standard)	N/A	California: Not to exceed 20 ppm Federal and Nevada: Not to exceed 35 ppm more than once per year.	Highest CO concentration measured at Stateline, Nevada monitoring station
	Winter Traffic Volume	Management (with Numerical Target)	Reduce traffic volumes on the U.S. Highway 50 Corridor by 7 percent during the winter from the 1981 base year between 4 p.m. and midnight, provided that those traffic volumes shall be amended as necessary to meet any state standards if they are developed.	N/A	Percent increase/decrease from 1981 winter (December through March) traffic volumes on U.S. Highway 50 at Park Avenue
Ozone	1-hour Ozone	Numerical	Maintain ozone concentrations at or below 0.08 ppm	Federal: N/A California: Not to exceed 0.09 ppm Nevada: Not to exceed 0.10 ppm	Highest 1-hour average ozone concentration measured within a year at any monitoring station
	8-hour Ozone	Numerical (State Standard)	N/A	California: Not to exceed 0.070 ppm Nevada: no standard Federal: 0.070 ppm, 3-year average of the fourth-highest daily maximum must not exceed concentration standard.	Highest 8-hour average ozone concentration measured within a year at any monitoring station

Pollutant	Name of Standard	Standard Type	Adopted TRPA Threshold Standard (TRPA Resolution 82-11)	Applicable State and Federal Standards	TRPA Indicator
	NO_x	Numerical (State Standard)	Maintain NO_x emissions at or below the 1981 level.	**NO_2 Annual Average** Nevada and Federal: Not to exceed 53 ppb California: Not to exceed 30 ppb NO_2 1-hour Average **NO_2 1-hour Average** Federal: 100 ppb, 3-year average of the 98th percentile of the daily maximum 1-hour average must not be exceeded California: Not to exceed 0.18 ppm	**NO_2 Annual Average** Highest annual average concentration of NOx and NO_2 1- hour Average **NO_2 1-hour Average** Federal: 3-year average of the 98th percentile of the daily maximum 1-hour average of NO_2 California: Highest 1- hour concentration measured within a year at any site
Visibility Reducing Particles	Regional Visibility	Numerical	Achieve an extinction coefficient of 25 Mm-1 at least 50 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 97 miles); Calculations will be made on three year running periods using the existing monitoring data as the performance standards to be met or exceeded.	California: 8-hour average extinction coefficient of 0.07 per kilometer – visibility of 30 miles or more due to particles when relative humidity is less than 70%. Nevada and Federal: N/A	Extinction coefficient and distance of visibility.
		Numerical	Achieve an extinction coefficient of 34 Mm^{-1} at least 90 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 71 miles). Calculations will be made on three year running periods using the existing monitoring data as the performance standards to be met or exceeded.	California: 8-hour average extinction coefficient of 0.07 per kilometer – visibility of 30 miles or more due to particles when relative humidity is less than 70%. Nevada and Federal: N/A	Extinction coefficient and distance of visibility.

Pollutant	Name of Standard	Standard Type	Adopted TRPA Threshold Standard (TRPA Resolution 82-11)	Applicable State and Federal Standards	TRPA Indicator
	Sub-Regional Visibility	Numerical	Achieve an extinction coefficient of 50 Mm^{-1} at least 50 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 48 miles).	N/A	Extinction coefficient and distance of visibility. 3-year running average of extinction coefficient.
		Numerical	Achieve an extinction coefficient of 125 Mm-1 at least 90 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 19 miles).	N/A	Extinction coefficient and distance of visibility. 3-year running average of extinction coefficient.
Respirable and Fine Particle Matter	Respirable Particulate Matter (PM_{10})	Numerical	Maintain PM_{10} at or below 50 µg/m³ measured over a 24-hour period in the portion of the Plan Area within California Maintain PM_{10} at or below 150 µg/m³ measured over a 24-hour period in the portion of the Plan Area within Nevada.	Federal: 150 µg/m³ (24-hr mean, not to be exceeded more than 3 times in 3 years) California: 50 µg/m³ Nevada: N/A	Number of 24-hr periods exceeding the applicable federal or state standards at any monitoring station
		Numerical	Maintain PM_{10} at or below annual arithmetic average of 20 µg/m³ in the portion of the Plan Area within California Maintain PM_{10} at or below annual arithmetic average of 50 µg/m³ in the portion of the Region within Nevada.	California: 20 µg/m³ Nevada and Federal: N/A	Annual average PM_{10} concentrations at any permanent monitoring station (µg/m³)
	Fine Particulate Matter ($PM_{2.5}$)	Numerical	Maintain $PM_{2.5}$ at or below 35 µg/m³ measured over a 24-hour period using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard.	Federal: 35 µg/m³, 3-year average of the 98th percentile of 24-hour concentration must not exceed concentration standard California and Nevada: N/A	Number of 24-hour periods exceeding the applicable federal or state standards at any monitoring station (µg/m³)

Pollutant	Name of Standard	Standard Type	Adopted TRPA Threshold Standard (TRPA Resolution 82-11)	Applicable State and Federal Standards	TRPA Indicator
		Numerical	Maintain $PM_{2.5}$ at or below annual arithmetic average of 12 µg/m³ in the portion of the Region within California and maintain $PM_{2.5}$ at or below annual arithmetic average of 15 µg/m³ in the portion of the Region within Nevada. $PM_{2.5}$ measurements shall be made using gravimetric or beta attenuation methods or any equivalent procedure which can be shown to provide equivalent results at or near the level of air quality standard	Federal: 12.0 µg/m³, 3-year average of weighted annual mean concentration must not exceed. California: 12 µg/m³ Annual concentration must not be exceeded.	Annual average $PM_{2.5}$ concentrations at any permanent monitoring station (µg/m³)
Nitrate Deposition	Vehicle Miles Traveled	Numerical	Reduce vehicle miles traveled in the LTAB by 10% of the 1981 base year values.	N/A	A 10% reduction from 1981 base year estimated VMT is 2,030,938 VMT (Source: TRPA TransCAD Model)
	Nitrate Deposition	Management	Reduce the transport of nitrates into the basin and reduce NO_x produced in the LTAB consistent with the water quality thresholds.	N/A	Implementation of management standard into the Regional Plan
Odor	Odor	Policy Statement	It is the policy of the TRPA Governing Board in the development of the Regional Plan to reduce fumes from diesel engines to the extent possible.	N/A	Implementation of policy statement into the Regional Plan

ppm = parts per million; Mm^{-1} = inverse megameters; µg/m³ = micrograms per cubic meter; N/A = no applicable standard

Sources: U.S. EPA 2020; CARB 2016; Nevada Division of Environmental Protection 2020: TRPA 2012

- The project would result in construction or operation emissions of other pollutants (PM_{10}, CO, SO_2, NO_2, sulfates, lead, hydrogen sulfide) that could cause or contribute to violations of any applicable NAAQS or CAAQS (including visibility). In the LTAB, the TRPA visibility standard is applied.
- The project would result in construction or operational emissions of TACs that cause a lifetime cancer risk greater than one in one million (10 in one million if best available control technology for TACs is applied), or ground-level concentrations of non-carcinogenic toxic air contaminants with a Hazard Index greater than 1.

The El Dorado CEQA Guide also outlines the following qualitative criteria that would result in a project being found significant:

- The project triggers any of the air quality significance criteria in Appendix G of the *CEQA Guidelines*.
- The project results in excessive odors, as defined under the California Health & Safety Code definition of an air quality nuisance.
- The project results in land use conflicts with sensitive receptors, such as schools, elderly housing, hospitals or clinics, etc.
- The project, as proposed, is not in compliance with all applicable El Dorado County AQMD rules and regulations.
- The project does not comply with U.S. EPA general and transportation conformity regulations.

In addition, according to El Dorado County AQMD, a project would result in a considerable contribution to a cumulative impact to air quality if one or more of the following conditions is met:

- The project would require a change in the land use designation (general plan amendment or rezone) that increases ROG and NO_x emissions as compared to the prior approved use;
- The project would individually exceed the project-level significance thresholds for ROG or NO_x;
- For potentially significant air quality impacts, the lead agency for the project does not require the project to implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan.
- The project is located in a jurisdiction that does not implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan.
- For PM_{10}, SO_2, and/or NO_2:
  - The project is primarily an industrial project or the majority of the emissions of these pollutants is attributable to stationary sources of air pollution subject to regulation by El Dorado County AQMD and one or more of the following conditions are met:
    - Project-level emissions of these pollutants are significant;
    - The project would not comply with all applicable rules and regulations of El Dorado County AQMD; and/or
    - A modeling analysis indicates that the project's impacts would exceed Class III Prevention of Significant Deterioration (PSD) increments (Class II in Lake Tahoe).

- The project is primarily a development project or the majority of the emissions of these pollutants is attributable to motor vehicle sources and one or more of the following conditions are met:
  - Project-level emissions of these pollutants are significant;
  - The project would not comply with all applicable rules and regulations of El Dorado County AQMD; and/or
  - Project emissions are not cumulatively significant for ROG, NO_X, and CO.

- The combined TAC concentrations from multiple projects creates a composite lifetime cancer risk greater than one in one million (10 in one million if best available control technology for TACs is applied), or ground-level concentrations of non-carcinogenic toxic air contaminants with a Hazard Index greater than 1. However, in the event that the project-level cancer risk is less than one in one million and the non-cancer Hazard Index is less than 0.5, a project is considered to be a *de minimis* contributor to the cumulative risk, and the project's contribution to the cumulative impact would not be cumulatively considerable.

2.2 Methodology

Short-Term Emissions Methodology

Emissions from construction activities represent temporary impacts that are typically short in duration depending on the size, phasing and type of project. Air quality impacts can nevertheless be acute during construction periods, resulting in significant localized impacts to air quality. Construction-related emissions are speculative at the RTP/SCS level because such emissions are dependent on the characteristics and timing of individual development projects. However, because construction of the 2045 RTP/SCS would generate temporary criteria pollutant emissions, primarily due to the operation of construction equipment and truck trips, a qualitative analysis is provided.

Long-Term Emissions Methodology

For this analysis, the baseline year is updated to 2018 from the 2014 baseline year used in the 2017 RTP/SCS IEC/IS to accommodate new VMT estimates that characterize updated existing conditions and use TRPA's recently-updated Travel Demand Model. In addition, the planning horizon for the 2045 RTP/SCS has been updated to 2045, which is five years longer than the previous projection year of 2040 under the 2017 RTP/SCS.

Air emissions from on-road mobile sources were calculated using emission factors from CARB's EMFAC2017 model, off-model adjustment factors to account for the effects of the SAFE Vehicles Rule, and regional vehicle miles travelled (VMT) from TRPA's Travel Demand Model, shown in Table 3. Consistent with the methodology used in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS, TRPA assumes that the vehicle fleet information contained in the EMFAC model for the Lake Tahoe subareas of Placer and El Dorado counties would be representative of vehicles throughout the LTAB because the factors that determine vehicle choice (e.g., lifestyle, mobility, environmental, and local economic factors) do not differ dramatically throughout the region. Therefore, for the purposes of modeling mobile source criteria pollutant emissions, VMT in Nevada was distributed proportionally between the Lake Tahoe subareas of Placer and El Dorado counties.

Table 3 2045 RTP/SCS VMT Data

	Annual Daily Average VMT[1]		
	Eastern El Dorado County (South Shore)	Eastern Placer County (North Shore)	Nevada
2018	522,021	271,521	627,211
2035	533,108	269,873	530,476
2045	548,515	272,966	532,994

VMT = vehicle miles traveled

[1] Model day VMT was converted to annual average daily VMT using a conversion factor of 0.961 per TRPA guidance.

Source: TRPA 2020a

The U.S. EPA approved the use of EMFAC2017 for transportation conformity in California on August 15, 2019 (Federal Register Volume 84, Number 158, EPA-R09-OAR-2019-0472). EMFAC emission factors are established by the CARB and accommodate mobility assumptions (e.g., vehicle fleets, speed, delay times, average trip lengths, time of day and total travel time) provided by TRPA's Travel Demand Model and socioeconomic growth projections based on data from the UCLA Anderson Forecast, California Department of Finance, California Board of Equalization, California Energy Commission, U.S. Department of Energy Energy Information Administration, and U.S. Bureau of Economic Analysis. Since the time of the 2017 RTP/SCS IEC/IS, the CARB released EMFAC2017, replacing EMFAC2014, the model that was used in the 2017 RTP/SCS IS/IEC to estimate mobile source emissions in California. EMFAC2017 accounts for updated fleet characterization, vehicle activity profile, and socio-econometric forecasting data; new vehicle testing data for emission rates; updated assumptions on the Advanced Clean Cars regulation; and implementation of new regulations and policies including Phase 2 GHG standards for heavy-duty vehicles and the Road Repair and Accountability Act of 2017 (Senate Bill 1). Table 4 provides a comparison of weighted average running exhaust emissions factors for the LTAB region using EMFAC2014, which was utilized to model emissions in the 2017 RTP/SCS IS/IEC and EMFAC2017, which is used in this analysis. As shown therein, weighted average running exhaust emission factors in EMFAC2017 are generally higher than those of EMFAC2014 with the exception of those for ROG and SO_X. To account for the effects of the SAFE Vehicle Rule on mobile source criteria air pollutant emissions, off-model adjustment factors published by the CARB (2019) were applied to NO_X exhaust, PM exhaust, and CO exhaust emissions from gasoline-powered passenger cars (LDA) and light duty-trucks (LDT1, LDT2, and MDV).[3] Projected vehicle emissions on the TRPA transportation network for the year 2045 under the 2045 RTP/SCS were compared with emissions estimated for baseline year 2018.

[3] The definition of light-duty trucks in the SAFE Vehicles Rule correlates to the definitions of LDT1, LDT2, and MDV by the CARB in the EMFAC2017 model (CARB 2019b and 2020a).

Table 4 Weighted Average Emissions Factors for Vehicle Travel in the LTAB in 2045

On-Road Mobile Source Emissions Model	Emissions Rate (grams/mile)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
EMFAC2014	0.022	0.109	0.461	0.0027	0.0011	0.0010
EMFAC2017	0.017	0.134	0.517	0.0025	0.0016	0.0015
Percent Change	(23%)	23%	12%	(7%)	45%	50%

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less

Note: Weighted average emissions rates are based on RUNEX emissions for each pollutant, including off-model adjustments for the effects of the SAFE Rule per CARB guidance (CARB 2019a).

See Appendix A for calculations.

The 2045 RTP/SCS proposes one new water taxi project (the North Shore Water Taxi Project Phase 2035), which would replicate the existing South Shore water taxi service for destinations on the North Shore. Emissions from the proposed Northshore Water Taxi Project Phase 2035 were estimated using SMAQMD's Harbor Craft, Dredge and Barge Emission Factor Calculator, which is based on the California Air Resources Board's Harbor Craft Database. To estimate watercraft emissions, project information, vessel type, and engine type were input into the Emission Factor Calculator. Based on existing South Shore water taxi service, it was assumed the North Shore water taxi would operate for eight hours a day, seven days a week between June 1 and September 30 each year. Emissions from the North Shore Water Taxi Project Phase 2035 were added to the waterborne transit emissions estimated in the 2012 RTP/SCS EIR/EIS to provide a conservative estimate of impacts associated with the 2045 RTP/SCS.

Health Impacts

As discussed in Section 1.1, *Air Quality Background*, short-term and long-term exposure to criteria pollutants and TACs may result in adverse health effects including aggravated asthma, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, decreased lung function, increased cancer risk, heart attack and premature death. The ambient air quality standards are health-based standards. Therefore, in this impact analysis, when the proposed Plan would result in a cumulative considerable net increase of criteria pollutants for which the project region is nonattainment under applicable air quality standards, it would also contribute to these adverse health effects.

2.3 Project Impacts and Mitigation Measures

This section describes generalized air quality impacts associated with the 2045 RTP/SCS. Due to the programmatic nature of the 2045 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible. In general, however, implementation of proposed transportation improvements and land use scenario envisioned by the 2045 RTP/SCS could result in air quality impacts as described in the following sections.

CEQA

Threshold 1:	Conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 AS OF JUNE 1, 2018, TRANSPORTATION CONFORMITY REQUIREMENTS NO LONGER APPLY FOR THE CO NAAQS FOR FEDERAL-AID PROJECTS IN THE LAKE TAHOE REGION. THEREFORE, NO AIR QUALITY PLANS ARE APPLICABLE TO THE 2045 RTP/SCS. NO IMPACT WOULD OCCUR. AS SUCH, IMPACTS WOULD BE LESS THAN THOSE IDENTIFIED IN THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC.

For the California portion of the LTAB, the applicable federal air quality maintenance plan for Lake Tahoe is the Carbon Monoxide Maintenance Plan (CO Maintenance Plan) originally adopted in 1996 and revised in 2004 (CARB 2004). The CO Maintenance Plan tiers off the Regional Transportation Plan – Air Quality Plan, adopted by TRPA in 1992. However, as of June 1, 2018, transportation conformity requirements no longer apply for the CO NAAQS for Federal -Aid projects as defined in 40 CFR 93.101 in California because the standard 20-year maintenance planning period per 40 CFR 93.102(b)(4) has ended and the maintenance plan does not specify a longer maintenance period (U.S. EPA 2018). Therefore, no air quality plans are applicable to the 2045 RTP/SCS, and no impact would occur. As such, impacts would be less than those identified under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

Mitigation Measures

None required.

Threshold 2:	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Impact AQ-2 CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE TRANSPORTATION PROJECTS AND LAND USE SCENARIO OF THE 2045 RTP/SCS WOULD GENERATE FUGITIVE DUST AND OZONE PRECURSOR EMISSIONS. HOWEVER, THE 2045 RTP/SCS WOULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NONATTAINMENT UNDER FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS. IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC. MITIGATION MEASURE 3.4-2 FROM THE 2012 RTP/SCS EIR/EIS WOULD CONTINUE TO APPLY TO THE 2045 RTP/SCS.

The LTAB is currently in attainment of all NAAQS and CAAQS with the exception of the PM_{10} CAAQS. The types of short-term construction-generated emission activity would generally be the same under the 2045 RTP/SCS as the 2017 RTP/SCS because the differences between the 2017 RTP and the 2045 RTP consist of adding 22 new minor projects[4] (nine Active Transportation, three Corridor + Communities, eight Operations and Maintenance, and two Technology), modifying several projects that remain on the list, and removing projects that have been completed since 2017. The 22 new projects are similar in type to those included in the 2017 RTP/SCS and include construction of bikeways, trails, sidewalks; installation of complete streets improvements and variable speed signs; improvements to parking management and wayfinding; and operation and maintenance activities for existing roadways and transit, bicycle, and pedestrian facilities. The 2045 RTP would also include

[4] Net new count does not include unconstrained projects in the 2045 RTP/SCS.

the remaining 92 yet-to-be-completed projects as under the 2017 RTP/SCS, some of which are currently being implemented.

One of the two largest infrastructure construction projects in the 2012 RTP, State Route 89/Fanny Bridge Community Revitalization Project, has been approved and construction has been initiated since adoption of the IS/IEC in 2017. As discussed in the 2017 RTP/SCS IS/IEC, although the 2012 RTP EIR/EIS concluded that project-related construction impacts on air quality would be significant and unavoidable (see Impact 3.4-2 of the 2012 RTP EIR/EIS), a project-level analysis of the SR 89/Fanny Bridge concluded that construction-related ROG, NO_x, PM_{10}, $PM_{2.5}$, and CO emissions would be less than significant (see Impact 4.2-2 of the SR 89/Fanny Bridge EIR/EIS/EA [TRPA 2015]). Projects listed in the 2045 RTP/SCS would be constructed at an equivalent or smaller scale than the SR 89/Fanny Bridge Community Revitalization Project, based on current project descriptions and a comparison of anticipated construction costs and project type (see TRPA 2020c). Because construction of the SR 89/Fanny Bridge project was determined to have less-than-significant impacts on air quality, project-level construction under the 2045 RTP/SCS would have a similar impact level. This would include construction for all 92 projects identified in the 2017 RTP that continue to remain on the constrained list of projects under the 2045 RTP/SCS and new projects added to the 2045 RTP/SCS. Therefore, the maximum daily criteria pollutants and precursor emissions generated by construction activities would not exceed air quality standards at the project-level with the implementation of TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS) and compliance with all applicable Placer County APCD or El Dorado County AQMD rules; and construction emissions would not result in a cumulatively considerable net increase in criteria pollutants for which the LTAB is in nonattainment. Because transportation projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

The land use scenario envisioned by the 2045 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development under the 2045 RTP/SCS is anticipated to increase through the years 2035 and 2045, in keeping with State-mandated housing (TRPA 2020b). These increases would accommodate slight increases to full-time residential population and a more robust increase in day and overnight visitors to the Plan Area, which would result in continued and increased use of overnight lodging. Nevertheless, the 2045 RTP/SCS does not facilitate or propose new residential, commercial, or visitor-serving development and the transportation projects would introduce minimal land use changes. In addition, the growth anticipated in this update is less than that analyzed in the 2012 RTP/SCS EIR/EIS. The 2012 analysis anticipated a 2035 population of 60,365 residents in the Lake Tahoe region; however, the current 2020 regional forecast anticipates a 2045 population of 58,041 residents (TRPA 2020b). Therefore, current anticipated population growth is less than previously anticipated growth under the 2012 RTP/SCS EIR/EIS. Regional population increase is therefore expected to be consistent with that estimated during previous planning processes in 2012 and 2017. Because the land use scenario included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

Mitigation Measure 3.4-2, listed below, from the 2012 RTP/SCS EIR/EIS would continue to apply to the 2045 RTP/SCS. The provisions of this mitigation measure have been adopted as part of TRPA's Best Construction Practices Policy, and all construction projects facilitated by the 2045 RTP/SCS would be required to comply with its provisions.

3.4.2 Reduce Temporary Construction Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$

Within 12 months of adoption of an updated Regional Plan, TRPA will coordinate with local governments to develop and effectuate the implementation of Best Construction Practices for Construction Emissions that require, as a condition of project approval, implementation of feasible measures and Best Management Practices to reduce construction-generated emissions to the extent feasible. Until that time, TRPA will continue existing practice to require measures developed on a project-specific basis. Such measures shall include those listed below to the extent they are not already addressed in local requirements.

In addition to the mitigation measures identified below, construction of the projects located in California will be required to comply with all applicable Placer County APCD or El Dorado County AQMD rules, as appropriate, including Rule 202 (Placer County APCD and El Dorado County AQMD) regarding visible emissions, Rule 228 (Placer County APCD) and 223 (El Dorado County AQMD) regarding fugitive dust, Rule 218 (Placer County APCD) and 215 (El Dorado County AQMD) regarding the application of architectural coatings, and Rule 217(Placer County APCD) and 224 (El Dorado County AQMD) regarding cutback and emulsified asphalt paving materials. For projects located in Washoe County, projects will comply with Washoe County Health District Rules Governing Air Quality, including 040.005 Visible Emissions, 040.030 Dust Control, 040.090 Cutback Asphalts, and 040.200 Diesel Engine Idling. Where local rules and regulations pertaining to construction emissions exist, projects developed pursuant to the Regional Plan shall comply with local requirements. For projects located in California, specifically, TRPA will require the following:

- Project proponents shall submit to the Placer County APCD or El Dorado County AQMD, as applicable, and receive approval of, a Construction Emission/Dust Control Plan prior to any groundbreaking or tree removal activities.
- Prime contractors shall submit to the Placer County APCD or El Dorado County AQMD, as applicable, a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50 horsepower of greater) that will be used an aggregate of 40 or more hours for the construction project. The project representative shall provide the Placer County APCD or El Dorado County AQMD, as applicable, with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The project representative shall provide a plan for approval by the Placer County APCD or El Dorado County AQMD, as applicable, demonstrating that the heavy-duty (50 horsepower or greater) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average of 20 percent NO_X reduction and 45 percent particulate reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.
- As a condition of approval of California transportation projects, TRPA will require individual project environmental review to confirm and demonstrate that project-generated emissions

associated with construction will be within the regulatory limits of Placer County APCD or El Dorado County AQMD, as applicable, following implementation of mitigation measures.

For all projects implementing the RTP/SCS, TRPA will require the following:

- Fugitive dust shall not exceed 40 percent opacity and not go beyond the property boundary at any time during project construction.
- No open burning of removed vegetation shall occur during infrastructure improvements.
- Minimize idling time to 5 minutes for all diesel-power equipment.
- Apply water to control dust as needed to prevent dust impacts off site. Operational water truck(s) shall be on site, as required, to control fugitive dust. Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off site.
- Apply approved chemical soil stabilizers, vegetative mats, or other appropriate Best Management Practices to manufacturer's specifications, to all inactive construction areas (previously graded areas which remain inactive for 96 hours). Spread soil binders on unpaved roads and employee/equipment parking areas and wet broom or wash streets if silt is carried over to adjacent public thoroughfares.
- Use existing power sources (e.g., power poles) or clean-fuel generators rather than temporary diesel power generators, wherever feasible.

Impact AQ-3 Operational emissions associated with VMT and the land use scenario under the 2045 RTP/SCS would generally decrease over the planning period, with the exception of PM2.5 emissions, due to more stringent vehicle emission standards. Emissions would not exceed Placer County APCD or El Dorado County AQMD thresholds. Therefore, this impact would be less than significant, similar to that identified in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

The LTAB is currently in attainment of all NAAQS and CAAQS with the exception of the PM_{10} CAAQS. In the 2017 RTP/SCS IS/IEC, operational emissions of criteria air pollutants and precursors were evaluated for the entire region using the EMFAC2014 model. Per CARB recommendations, the revised region-wide mobile-source emissions modeling was conducted using EMFAC2017 for baseline year 2018 and buildout year 2045 (including off-model adjustments to account for the SAFE Vehicles Rule) along with updated VMT data provided by TRPA for 2018 baseline year and 2045 build-out year for the 2045 RTP/SCS. VMT in the Lake Tahoe region would increase by approximately 15,576 VMT per day by 2045 compared to 2018 conditions under the 2045 RTP/SCS.

Updated emissions modeling results for the 2045 RTP/SCS are summarized in Table 5 for ozone precursors, ROG and NO_x, CO, SO_2, and particulate matter. As shown therein, criteria pollutant emissions modeling for the 2045 RTP/SCS indicates an overall reduction in criteria air pollutants as compared to the 2018 baseline. The estimated reductions in on-road mobile source emissions are primarily due to stricter vehicle emissions standards that will phase in over the planning period as reflected in EMFAC2017 emission factors. Thus, the 2045 RTP/SCS would result in a substantial long-term reduction in criteria air pollutant emissions. The emissions modeling results are similar to those in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS, which estimated overall reductions in criteria air pollutants (Impact 3.4-3 in the 2012 RTP/SCS EIR/EIS and Section 3.4.2 in the 2017 RTP/SCS IEC/IS).

Table 5 2045 RTP/SCS Net Change in Daily Basinwide Operational Emissions (2018-2045)

	Daily Emissions (lbs/day)					
Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
On-road Mobile Sources[1]	(2,167.8)	(3,446.9)	(15,520.1)	(11.8)	(51.6)	(48.1)
Waterborne Transit[2] and Water Taxi Service[3]	63.9	474.5	471.6	0.7	12.6	12.5
Total Net Change (2018-2045)	**(2,103.9)**	**(2,972.4)**	**(15,048.5)**	**(11.1)**	**(39.0)**	**(35.6)**
Placer County APCD Thresholds	55	55	n/a	n/a	82	n/a
El Dorado County AQMD Thresholds	82	82	n/a	n/a	n/a	n/a
APCD/AQMD Thresholds Exceeded?	No	No	n/a	n/a	No	n/a

( ) denotes a negative number.

lbs/day = pounds per day; ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter measuring no more than 10 microns in diameter; $PM_{2.5}$ = particulate matter measuring no more than 2.5 microns in diameter; APCD = Air Pollution Control District; AQMD = Air Quality Management District; n/a = not applicable (The air districts have not adopted thresholds for these pollutants.)

[1] Emission modeling completed using EMFAC 2017 and CARB's off-model adjustment factors to account for SAFE Vehicles Rule implementation.

[2] Waterborne transit emissions were sourced from the 2012 RTP/SCS EIR/EIS and converted to lbs/day assuming ferry operations would occur for a 122-day period between June 1 and September 30 each year.

[3] Emission modeling for the North Shore Water Taxi Project Phase 2035 was completed using Harbor Craft, Dredge and Barge Emission Factor Calculator.

See Appendix B for EMFAC results and Appendix C for Harbor Craft, Dredge and Barge Emission Factor Calculator results.

TRPA's significance criteria for ozone and PM_{10} are based on achieving concentration-based standards for these pollutants. In order to evaluate how a project or plan would affect regional attainment of concentration-based ambient air quality standards, local air districts frequently rely on mass emission-based significance criteria. However, TRPA has not adopted mass emission-based standards for projects or plans. For example, as discussed in Section 1.2, *Regulatory Setting*, Placer County APCD considers a project that would generate emissions less than 55 pounds per day of ROG or NO_X, or 82 pounds per day of PM_{10} to not result a cumulatively considerable net increase of ozone and PM_{10}. In addition, El Dorado County AQMD also considers a project that would generate emissions less than 82 pounds per day of ROG or NO_X to not result a cumulatively considerable net increase of ozone and PM_{10}. These mass emission thresholds of significance are tied to Placer County APCD and El Dorado County AQMD air quality attainment planning efforts for the NAAQS and CAAQS, which are as stringent as TRPA threshold standards for ozone and PM_{10}. Thus, it is appropriate to use Placer County APCD and El Dorado County AQMD significance criteria to evaluate whether emissions from the 2045 RTP/SCS would exceed TRPA threshold standards. As shown in Table 5, criteria pollutant emissions would not exceed Placer County APCD and El Dorado County AQMD thresholds, which have been established for ROG, NO_X, and PM_{10} emissions. Therefore,

operational emissions associated with the 2045 RTP/SCS would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state air quality standards, and impacts would be less than significant, similar to those identified in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS. Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would adhere to local air district standards, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

Threshold 4: Expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-4 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL CONCENTRATIONS OF CO OR TACS. IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC. MITIGATION MEASURE 3.4-5 FROM THE 2012 RTP/SCS EIR/EIS WOULD CONTINUE TO APPLY TO THE 2045 RTP/SCS.

Exposure of sensitive receptors to elevated localized concentrations of CO or TAC emissions could result in adverse health impacts. Impacts related to each of these pollutants are discussed in the following subsections.

CO Impacts

With respect to localized CO impacts, the Transportation Project-Level Carbon Monoxide Protocol (Garza et al. 1997) states that signalized intersections that operate at an unacceptable level of service (LOS) represent a potential for a CO violation, also known as a “hot spot.” Thus, an analysis of CO concentrations is typically recommended for receptors located near signalized intersections that are projected to operate at LOS E or F.

Consistent with the approach of the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC, screening criteria are used to evaluate the potential for localized CO impacts in the event that signalized intersections are projected to operate at LOS E or F. Because TRPA, Placer County APCD, and El Dorado County AQMD have not adopted specific thresholds for evaluating the potential for local CO hotspots, this analysis utilizes the Bay Area Air Quality Management District (BAAQMD) screening criteria. Adjusting for the more stringent 8-hour CO standards for the Lake Tahoe area (6 ppm vs. 9.0 ppm [i.e., a 33 percent decrease]), it is appropriate to use the adjusted-BAAQMD screening method for screening of CO impacts for intersections in the LTAB. The applicable screening criteria are as follows (BAAQMD 2017):

- The project would not result in an affected intersection experiencing more than 29,333 vehicles per hour (vph) (reduced by 33 percent from 44,000 vph for the Bay Area);
- The project would not result in an affected intersection experiencing more than 16,000 vph where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (reduced by 33 percent from 24,000 vph for the Bay Area)

Under the 2045 RTP/SCS and according to the traffic analysis prepared by Kittleson and Associates (2020), all affected intersections would operate at LOS D or better by 2045. In addition, although a number of roadway segments would operate at LOS E or F by 2045, none of studied roadway segments would experience peak hour volumes greater than 4,400 vph. Therefore, the 2045 RTP/SCS would not expose sensitive receptors to substantial CO emissions, and impacts would be less than significant, similar to those identified in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IEC/IS. As a result, because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would meet screening criteria standards for CO, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

TAC Impacts

The 2045 RTP/SCS would implement VMT-reducing projects and programs that are designed to reduce associated air pollutant emissions by promoting more efficient travel patterns, facilitating the use of active transportation, and enhancing and expanding transit service. The construction and operation of projects would comply with federal and state regulations, the TRPA Code of Ordinances, and other applicable rules including the TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS). Projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS and would result in TAC impacts similar to those under the 2012 RTP/SCS and the 2017 RTP/SCS. In addition, implementation of Mitigation Measure 3.4-5 from the 2012 RTP/SCS EIR/EIS would continue to be required for the 2045 RTP/SCS. Therefore, similar to the conclusions of the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC, short-term construction-related and long-term operational exposures of sensitive receptors in the LTAB to TAC emissions associated with buildout of the 2045 RTP/SCS would be less than significant. Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

Mitigation Measure 3.4-5 from the 2012 RTP/SCS EIR/EIS would continue to apply to the 2045 RTP/SCS. The provisions of this mitigation measure have been adopted as part of TRPA's Best Construction Practices Policy, and all construction projects facilitated by the 2045 RTP/SCS would be required to comply with its provisions.

3.4-5 Minimize Exposure of Sensitive Receptors to TAC Emissions during Construction

To reduce exposure of sensitive receptors to construction-related TAC emissions, TRPA will implement Mitigation Measure 3.4-2 for all alternatives, "Reduce Temporary Construction Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$." This measure includes emissions control strategies for construction equipment that would also reduce diesel PM emissions, including limiting idling time to five minutes maximum and submitting an inventory of construction equipment to Placer County APCD or El Dorado County AQMD to demonstrate that emissions from the construction fleet would be better than statewide averages.

In addition, for all alternatives, TRPA will require contractors to implement the following measures for all projects constructed pursuant to the RTP/SCS:

- Equip heavy-duty construction equipment with diesel particulate traps.

- Locate construction staging areas as far away as possible on the project site from off-site receptors.
- As a condition of approval, individual project environmental review shall demonstrate that current district-recommended BMPs are implemented to ensure sensitive receptors are not exposed to substantial TAC concentrations.

Mitigation Measure 3.4-2 includes the opportunity to implement measures developed as part of the Best Construction Practices Policy for Construction Emissions. For projects that are permitted prior to the completion of the Best Construction Practices, TRPA will require the specific strategies listed in Mitigation Measure 3.4-2 for project approval to the extent they are not already addressed in applicable local requirements.[5]

Threshold 5:	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact AQ-5 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD NOT GENERATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE OR SITE SENSITIVE RECEPTORS IN PROXIMITY TO AN ODOR SOURCE. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC.

Projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS and would not include any major sources of odors because the project types are not those types of facilities known to produce odors such as landfills or wastewater treatment facilities. In addition, no substantial, existing odor sources are located in the LTAB. Odors associated with diesel exhaust from the use of on-site construction equipment would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. Finally, implementation of the 2045 RTP/SCS does not include the siting of new sensitive receptors. Therefore, impacts would be less than significant, similar to those identified in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

[5] This language is included in the original text of Mitigation Measure 3.4-5 of the 2012 RTP/SCS EIR/EIS. However, at this time, TRPA has adopted its Best Construction Practices Policy, which incorporates the requirements of this mitigation measure.

TRPA

Threshold 7: Result in the deterioration of ambient (existing) air quality?

Impact AQ-6 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD GENERATE AIR POLLUTANT EMISSIONS; HOWEVER, AS DISCUSSED IN CEQA IMPACTS AQ-1 THROUGH AQ-3, THESE AIR POLLUTANT EMISSIONS WOULD NOT RESULT IN THE DETERIORATION OF AMBIENT AIR QUALITY. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2017 RTP/SCS IS/IEC.[6]

The 2045 RTP/SCS would implement VMT-reducing projects and programs that are designed to reduce associated air pollutant emissions by promoting more efficient travel patterns, facilitating the use of active transportation, and enhancing and expanding transit service. The construction and operation of projects would comply with federal and state regulations, the TRPA Code of Ordinances, and other applicable rules including the TRPA's Best Construction Practices Policy (Mitigation Measure 3.4-2 from the 2012 RTP/SCS EIR/EIS). As discussed under Impacts AQ-2 and AQ-3, construction and operational emissions associated with the 2045 RTP/SCS would not exceed Placer County APCD or El Dorado County AQMD thresholds. Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

Threshold 8: Result in the creation of objectionable odors?

Impact AQ-7 AS DISCUSSED IN CEQA IMPACT AQ-5, IMPLEMENTATION OF THE 2045 RTP/SCS WOULD NOT GENERATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE OR SITE SENSITIVE RECEPTORS IN PROXIMITY TO AN ODOR SOURCE. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2017 RTP/SCS IS/IEC.[7]

As discussed under CEQA Impact AQ-5, projects included in the 2045 RTP/SCS would not include any major sources of odors and would not include the siting of new sensitive receptors near existing odor sources. Therefore, impacts would be less than significant, similar to those identified in the 2017 RTP/SCS IEC/IS. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

[6] The TRPA *Initial Environmental Checklist* was adopted after certification of the 2012 RTP/SCS EIR/EIS; therefore, impacts were not evaluated in relation to TRPA thresholds in the 2012 RTP/SCS EIR/EIS.

[7] The TRPA *Initial Environmental Checklist* was adopted after certification of the 2012 RTP/SCS EIR/EIS; therefore, impacts were not evaluated in relation to TRPA thresholds in the 2012 RTP/SCS EIR/EIS.

Threshold 9: Result in the alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Impact AQ-8 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD NOT RESULT IN THE ALTERATION OF AIR MOVEMENT, MOISTURE OR TEMPERATURE, OR ANY CHANGE IN CLIMATE, EITHER LOCALLY OR REGIONALLY. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2017 RTP/SCS IS/IEC.[8]

The 2017 RTP/SCS IS/IEC determined that the 2017 RTP/SCS program of projects were not of sufficient size to alter the climate of the local project area or the Lake Tahoe Region. The 2045 RTP/SCS proposes projects of similar scope and size to those included in the 2017 RTP/SCS. Thus, implementation of projects included in the 2045 RTP/SCS would not result in the alteration of air movement, moisture, or temperature. Impacts would be less than significant, similar to those identified in the 2017 RTP/SCS IEC/IS. Potential changes to the climate as a result of greenhouse gas emissions are evaluated in the *2045 Linking Tahoe: Regional Transportation Plan & Sustainable Communities Strategy Greenhouse Gas Study* (Rincon Consultants 2020). Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

Threshold 10: Result in the increased use of diesel fuel?

Impact AQ-9 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD RESULT IN ACTIVITIES THAT WOULD INCREASE THE USE OF DIESEL FUEL. HOWEVER, AS DISCUSSED UNDER CEQA IMPACTS AQ-2 THROUGH AQ-4, INCREASED DIESEL FUEL CONSUMPTION WOULD NOT RESULT IN SIGNIFICANT AIR QUALITY IMPACTS. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2017 RTP/SCS IS/IEC.[9]

The 2017 RTP/SCS IS/IEC concluded that the anticipated increase in diesel fuel consumption would not be sufficient to result in significant air quality impacts. The 2045 RTP/SCS proposes projects of similar scope and size to those included in the 2017 RTP/SCS. As discussed under CEQA Impacts AQ-2 through AQ-4, these activities would not result in significant air quality impacts, similar to the conclusions of the 2017 RTP/SCS IEC/IS. Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2017 RTP/SCS, and would incorporate site specific design and mitigation, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

[8] The TRPA *Initial Environmental Checklist* was adopted after certification of the 2012 RTP/SCS EIR/EIS; therefore, impacts were not evaluated in relation to TRPA thresholds in the 2012 RTP/SCS EIR/EIS.

[9] The TRPA *Initial Environmental Checklist* was adopted after certification of the 2012 RTP/SCS EIR/EIS; therefore, impacts were not evaluated in relation to TRPA thresholds in the 2012 RTP/SCS EIR/EIS.

Cumulative Analysis

As discussed in Section 3.4.3, the cumulative impact analysis area includes the LTAB as well as seven adjoining counties: Placer, El Dorado, Nevada, and Alpine Counties in California and Douglas, Carson City, and Washoe Counties in Nevada. The LTAB falls within the jurisdiction of El Dorado County AQMD and Placer County APCD, while the adjoining counties fall within the jurisdiction of the El Dorado County AQMD, Placer County APCD, Northern Sierra Air Quality Management District, Great Basin Unified Air Pollution Control District, Washoe County Air Quality Management Division, or Nevada Division of Environmental Protection. Each of these six air management agencies has prepared an air quality plan to improve conditions and meet federal and state air quality standards. While each air management agency is primarily responsible for regulating its own emissions, the transport of emissions in one area can affect another area's ability to achieve attainment of pollutant standards. The non-LTAB portions of Placer and El Dorado Counties as well as the western part of Nevada County are designated nonattainment for the federal ozone standard, and the non-LTAB portions of Placer and El Dorado Counties as well as Nevada County are designated nonattainment for the state ozone and PM_{10} standards. These counties are designated attainment for all other NAAQS and CAAQS. Alpine County is in attainment of all NAAQS and CAAQS with the exception of the state PM_{10} standard. Washoe, Carson City, and Douglas Counites are in attainment of all NAAQS (CARB 2019b; U.S. EPA 2020).

Based on Placer County APCD thresholds, the 2045 RTP/SCS would result in a cumulatively considerable contribution to a cumulative air quality impact if it would result in a net increase in long-term operation-related (regional) emissions of ROG or NO_X that exceed 55 pounds per day or a net increase in long-term operation-related (regional) emissions of PM_{10} that exceeds 82 pounds per day. As shown in Table 5 under CEQA Impact AQ-3, operational emissions of ROG, NO_X, and PM_{10} associated with the 2045 RTP/SCS would decrease from the 2018 baseline year to the 2045 horizon year.

Based on El Dorado County AQMD guidance, a project would result in a considerable contribution to a cumulative impact to air quality if one or more of the following conditions is met:

- The project would require a change in the land use designation (general plan amendment or rezone) that increases ROG and NO_x emissions as compared to the prior approved use;
- The project would individually exceed the project-level significance thresholds for ROG or NO_x;
- For potentially significant air quality impacts, the lead agency for the project does not require the project to implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan.
- The project is located in a jurisdiction that does not implement the emission reduction measures contained in and/or derived from the El Dorado County AQMD Air Quality Attainment Plan.
- For PM_{10}, SO_2, and/or NO_2, the project is primarily a development project or the majority of the emissions of these pollutants is attributable to motor vehicle sources and one or more of the following conditions are met:
    - Project-level emissions of these pollutants are significant;
    - The project would not comply with all applicable rules and regulations of El Dorado County AQMD; and/or
    - Project emissions are not cumulatively significant for ROG, NO_X, and CO.

Transportation projects and the land use scenario in the 2045 RTP/SCS may result in changes to land use designations; however, as shown in Table 5 under CEQA Impact AQ-3, operational emissions of criteria air pollutants associated with the 2045 RTP/SCS would decrease from the 2018 baseline year to the 2045 horizon year and therefore would not exceed El Dorado County AQMD thresholds for these pollutants. All projects facilitated by the 2045 RTP/SCS would be required to comply with all applicable rules and regulations of El Dorado County AQMD. Furthermore, the 2045 RTP/SCS incorporates strategies that are similar to the emission reduction measures contained in the El Dorado County AQMD Air Quality Attainment Plan, including the provision, expansion, and improvement of pedestrian facilities, bicycle facilities, transit; parking management; transportation demand management; and the development of a land use scenario that concentrates the forecasted growth in population and employment in already urbanized areas. Therefore, the 2045 RTP/SCS would not result in a cumulatively considerable contribution to cumulative air quality impacts related to criteria air pollutants.

El Dorado County AQMD states that a cumulative impact related to TAC emissions would occur if the combined TAC concentrations from multiple projects creates a composite lifetime cancer risk greater than one in one million (10 in one million if best available control technology for TACs is applied), or ground-level concentrations of non-carcinogenic toxic air contaminants with a Hazard Index greater than 1. As discussed under CEQA Impact AQ-4, the quantity of TAC emissions from project construction under the 2045 RTP/SCS would be reduced to less-than-significant levels because implementation of Mitigation Measure 3.4-5 from the 2012 RTP/SCS EIR/EIS) would be required for all project construction under the 2045 RTP/SCS. Furthermore, individual projects facilitated by the 2045 RTP/SCS would be required to comply with Placer County APCD and El Dorado County AQMD rules governing TAC emissions. Therefore, the 2045 RTP/SCS would not result in a cumulatively considerable contribution to the potential cumulative impact related to TAC emissions.

The 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS found that the RTP/SCS would not result in cumulatively considerable contributions to cumulative air quality impacts because implementation of Mitigation Measure 3-4.2 would minimize construction-related emissions, mobile source operational emissions would decrease over the planning period, cumulative traffic volumes would not exceed the CO screening criteria, and the RTP/SCS would not result in substantial sources of TAC or odor emissions. Projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS. Given the above analysis, cumulative impacts on air quality associated with the 2045 RTP/SCS would be similar to and are within the scope of the analysis in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IEC/IS. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

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Appendix A

Comparison of EMFAC2014 and EMFAC2017 Weighted Average Emissions Factors

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: Lake Tahoe
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption
*Emissions rates calculated using Emissions Inventory in order to use off-model adjustment factors to account for effects of the SAFE Rule.

Weighted Emissions Rates (grams/mile)			
ROG	0.022	PM_{10}	0.0011
CO	0.461	$PM_{2.5}$	0.0010
NO_x	0.109	SO_x	0.0027

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	Emission Rate (g/mile)	Weighted Emissions Rate	CO_RUNEX	Adjusted SAFE Rule	Emission Rate (g/mile)	Weighted Emissions Rate	NOx_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weighted Emissions Rate	PM10_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weighted Emissions Rate	PM2_5_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weighted Emissions Rate	SOx_RUNEX	Emission Rate (g/mile)	Weighted Emissions Rate
Lake Tahoe	2045	All Other Buses	Aggregated	Aggregated	DSL	0.663159061	2.737063	0	2.01E-07	7.33E-08	2.07E-06	1.52E-13	1.06E-06	1.06E-06	3.86E-07	2.07E-06	7.98E-13	6.57E-06	6.57E-06	2.40E-06	2.07E-06	4.96E-12	1.51E-08	1.51E-08	5.52E-09	2.07E-06	1.14E-14	1.44E-08	5.28E-09	2.07E-06	1.09E-14	3.58E-08	1.31E-08	2.07E-06	2.70E-14
Lake Tahoe	2045	LDA	Aggregated	Aggregated	GAS	15749.9151	656358.5	98793.96	0.002876137	4.38E-09	4.96E-01	2.17E-09	0.234762588	2.45E-01	3.74E-07	4.96E-01	1.85E-07	0.018251763	1.86E-02	2.83E-08	4.96E-01	1.41E-08	0.000580537	6.09E-04	9.28E-10	4.96E-01	4.60E-10	0.000533782	5.60E-04	8.53E-10	4.96E-01	4.23E-10	0.001427695	2.18E-09	4.96E-01	1.08E-09
Lake Tahoe	2045	LDA	Aggregated	Aggregated	DSL	218.6280997	9150.821	1373.493	6.34E-05	6.93E-09	6.91E-03	4.79E-11	0.002090359	2.09E-03	2.28E-07	6.91E-03	1.58E-09	0.000108327	1.08E-04	1.18E-08	6.91E-03	8.18E-11	8.55E-06	8.55E-06	9.34E-10	6.91E-03	6.46E-12	8.18E-06	8.18E-06	8.94E-10	6.91E-03	6.18E-12	1.86E-05	2.03E-09	6.91E-03	1.40E-11
Lake Tahoe	2045	LDA	Aggregated	Aggregated	ELEC	2831.271644	120929.5	17902.01	0	0.00E+00	9.14E-02	0.00E+00	0	0.00E+00	0.00E+00	9.14E-02	0.00E+00	0	0.00E+00	0.00E+00	9.14E-02	0.00E+00	0	0.00E+00	0.00E+00	9.14E-02	0.00E+00	0	0.00E+00	0.00E+00	9.14E-02	0.00E+00	0	0.00E+00	9.14E-02	0.00E+00
Lake Tahoe	2045	LDT1	Aggregated	Aggregated	GAS	963.5311376	39651.69	5977.029	0.000186161	4.69E-09	3.00E-02	1.41E-10	0.014417813	1.51E-02	3.80E-07	3.00E-02	1.14E-08	0.001171648	1.19E-03	3.01E-08	3.00E-02	9.02E-10	3.56E-05	3.74E-05	9.43E-10	3.00E-02	2.83E-11	3.28E-05	3.44E-05	8.67E-10	3.00E-02	2.60E-11	9.18E-05	2.31E-09	3.00E-02	6.93E-11
Lake Tahoe	2045	LDT1	Aggregated	Aggregated	DSL	0.751382287	23.38761	4.183592	6.54E-07	2.80E-08	1.77E-05	4.94E-13	6.54E-06	6.54E-06	2.80E-07	1.77E-05	4.94E-12	3.43E-06	3.43E-06	1.47E-07	1.77E-05	2.59E-12	2.07E-07	2.07E-07	8.84E-09	1.77E-05	1.56E-13	1.98E-07	1.98E-07	8.46E-09	1.77E-05	1.49E-13	5.35E-08	2.29E-09	1.77E-05	4.04E-14
Lake Tahoe	2045	LDT1	Aggregated	Aggregated	ELEC	0.421003079	17.77233	2.638638	0	0.00E+00	1.34E-05	0.00E+00	0	0.00E+00	0.00E+00	1.34E-05	0.00E+00	0	0.00E+00	0.00E+00	1.34E-05	0.00E+00	0	0.00E+00	0.00E+00	1.34E-05	0.00E+00	0	0.00E+00	0.00E+00	1.34E-05	0.00E+00	0	0.00E+00	1.34E-05	0.00E+00
Lake Tahoe	2045	LDT2	Aggregated	Aggregated	GAS	6607.003361	264068.6	40936.49	0.001495277	5.66E-09	1.99E-01	1.13E-09	0.123646294	1.29E-01	4.89E-07	1.99E-01	9.76E-08	0.008770242	8.94E-03	3.39E-08	1.99E-01	6.75E-09	0.000237991	2.50E-04	9.46E-10	1.99E-01	1.89E-10	0.000218824	2.30E-04	8.70E-10	1.99E-01	1.73E-10	0.000715785	2.71E-09	1.99E-01	5.41E-10
Lake Tahoe	2045	LDT2	Aggregated	Aggregated	DSL	14.45485161	581.9393	89.8738	1.34E-05	2.31E-08	4.40E-04	1.01E-11	0.000136161	1.36E-04	2.34E-07	4.40E-04	1.03E-10	2.35E-05	2.35E-05	4.05E-08	4.40E-04	1.78E-11	3.05E-06	3.05E-06	5.24E-09	4.40E-04	2.30E-12	2.92E-06	2.92E-06	5.02E-09	4.40E-04	2.20E-12	1.47E-06	2.52E-09	4.40E-04	1.11E-12
Lake Tahoe	2045	LHD1	Aggregated	Aggregated	GAS	152.0232228	5066.803	2264.92	4.52E-05	8.93E-09	3.83E-03	3.42E-11	0.000976625	9.77E-04	1.93E-07	3.83E-03	7.38E-10	0.000490349	4.90E-04	9.68E-08	3.83E-03	3.70E-10	1.17E-05	1.17E-05	2.31E-09	3.83E-03	8.83E-12	1.08E-05	1.08E-05	2.12E-09	3.83E-03	8.12E-12	4.42E-05	8.72E-09	3.83E-03	3.34E-11
Lake Tahoe	2045	LHD1	Aggregated	Aggregated	DSL	205.1188749	7535.973	2580.137	0.001124057	1.49E-07	5.69E-03	8.49E-10	0.00539581	5.40E-03	7.16E-07	5.69E-03	4.08E-09	0.004742116	4.74E-03	6.29E-07	5.69E-03	3.58E-09	9.75E-05	9.75E-05	1.29E-08	5.69E-03	7.37E-11	9.33E-05	9.33E-05	1.24E-08	5.69E-03	7.05E-11	4.12E-05	5.47E-09	5.69E-03	3.11E-11
Lake Tahoe	2045	LHD2	Aggregated	Aggregated	GAS	32.28310341	1423.602	480.9701	8.89E-06	6.25E-09	1.08E-03	6.72E-12	0.00022342	2.23E-04	1.57E-07	1.08E-03	1.69E-10	6.39E-05	6.39E-05	4.49E-08	1.08E-03	4.83E-11	3.48E-06	3.48E-06	2.44E-09	1.08E-03	2.63E-12	3.20E-06	3.20E-06	2.25E-09	1.08E-03	2.42E-12	1.37E-05	9.63E-09	1.08E-03	1.04E-11
Lake Tahoe	2045	LHD2	Aggregated	Aggregated	DSL	80.35620787	3527.715	1010.78	0.000471076	1.34E-07	2.66E-03	3.56E-10	0.002112198	2.11E-03	5.99E-07	2.66E-03	1.60E-09	0.000398224	3.98E-04	1.13E-07	2.66E-03	3.01E-10	3.50E-05	3.50E-05	9.93E-09	2.66E-03	2.65E-11	3.35E-05	3.35E-05	9.50E-09	2.66E-03	2.53E-11	2.13E-05	6.04E-09	2.66E-03	1.61E-11
Lake Tahoe	2045	MCY	Aggregated	Aggregated	GAS	1014.358162	6978.523	2028.513	0.020064599	2.88E-06	5.27E-03	1.52E-08	0.154742993	1.55E-01	2.22E-05	5.27E-03	1.17E-07	0.009700808	9.70E-03	1.39E-06	5.27E-03	7.33E-09	1.98E-05	1.98E-05	2.84E-09	5.27E-03	1.50E-11	1.85E-05	1.85E-05	2.65E-09	5.27E-03	1.39E-11	1.72E-05	2.47E-09	5.27E-03	1.30E-11
Lake Tahoe	2045	MDV	Aggregated	Aggregated	GAS	3880.560539	121677.4	22847.26	0.000894145	7.35E-09	9.19E-02	6.75E-10	0.067342893	7.04E-02	5.78E-07	9.19E-02	5.31E-08	0.005011925	5.11E-03	4.20E-08	9.19E-02	3.86E-09	0.000117387	1.23E-04	1.01E-09	9.19E-02	9.31E-11	0.000107933	1.13E-04	9.31E-10	9.19E-02	8.56E-11	0.000435196	3.58E-09	9.19E-02	3.29E-10
Lake Tahoe	2045	MDV	Aggregated	Aggregated	DSL	99.30892494	3434.991	609.6928	2.74E-05	7.98E-09	2.59E-03	2.07E-11	0.008866828	8.87E-04	2.58E-07	2.59E-03	6.70E-10	4.40E-05	4.40E-05	1.28E-08	2.59E-03	3.33E-11	3.95E-06	3.95E-06	1.15E-09	2.59E-03	2.98E-12	3.78E-06	3.78E-06	1.10E-09	2.59E-03	2.85E-12	1.12E-05	3.27E-09	2.59E-03	8.49E-12
Lake Tahoe	2045	MH	Aggregated	Aggregated	GAS	47.41646[illegible]	491.0965	6.743543	5.63E-06	1.15E-08	3.71E-04	4.25E-12	8.84E-05	8.84E-05	1.80E-07	3.71E-04	6.68E-11	6.29E-05	6.29E-05	1.28E-07	3.71E-04	4.75E-11	7.56E-07	7.56E-07	1.54E-09	3.71E-04	5.71E-13	6.95E-07	6.95E-07	1.41E-09	3.71E-04	5.25E-13	6.58E-06	1.34E-08	3.71E-04	4.97E-12
Lake Tahoe	2045	MH	Aggregated	Aggregated	DSL	14.54392204	145.1626	1.454392	1.34E-05	9.24E-08	1.10E-04	1.01E-11	4.09E-05	4.09E-05	2.81E-07	1.10E-04	3.09E-11	0.000449297	4.49E-04	3.10E-06	1.10E-04	3.39E-10	5.67E-06	5.67E-06	3.91E-08	1.10E-04	4.28E-12	5.43E-06	5.43E-06	3.74E-08	1.10E-04	4.10E-12	1.55E-06	1.07E-08	1.10E-04	1.17E-12
Lake Tahoe	2045	Motor Coach	Aggregated	Aggregated	DSL	16.6412908	2137.865	0	0.000193436	9.05E-08	1.61E-03	1.46E-10	0.001142197	1.14E-03	5.34E-07	1.61E-03	8.63E-10	0.003965786	3.97E-03	1.86E-06	1.61E-03	3.00E-09	1.19E-05	1.19E-05	5.55E-09	1.61E-03	8.97E-12	1.14E-05	1.14E-05	5.31E-09	1.61E-03	8.58E-12	3.61E-05	1.69E-08	1.61E-03	2.73E-11
Lake Tahoe	2045	OBUS	Aggregated	Aggregated	GAS	16.4783311	1038.656	329.6984	1.63E-05	1.57E-08	7.85E-04	1.23E-11	0.000302359	3.02E-04	2.91E-07	7.85E-04	2.28E-10	0.000145833	1.46E-04	1.40E-07	7.85E-04	1.10E-10	1.63E-06	1.63E-06	1.56E-09	7.85E-04	1.23E-12	1.49E-06	1.49E-06	1.44E-09	7.85E-04	1.13E-12	1.39E-05	1.34E-08	7.85E-04	1.05E-11
Lake Tahoe	2045	PTO	Aggregated	Aggregated	DSL	0	520.4991	0	0.000118795	2.28E-07	3.93E-04	8.97E-11	0.000701458	7.01E-04	1.35E-06	3.93E-04	5.30E-10	0.002522521	2.52E-03	4.85E-06	3.93E-04	1.91E-09	3.71E-06	3.71E-06	7.12E-09	3.93E-04	2.80E-12	3.55E-06	3.55E-06	6.81E-09	3.93E-04	2.68E-12	9.96E-06	1.91E-08	3.93E-04	7.52E-12
Lake Tahoe	2045	SBUS	Aggregated	Aggregated	GAS	5.235176681	255.0969	20.94071	3.19E-06	1.25E-08	1.93E-04	2.41E-12	5.51E-05	5.51E-05	2.16E-07	1.93E-04	4.16E-11	2.91E-05	2.91E-05	1.14E-07	1.93E-04	2.20E-11	4.54E-07	4.54E-07	1.78E-09	1.93E-04	3.43E-13	4.18E-07	4.18E-07	1.64E-09	1.93E-04	3.16E-13	1.77E-06	6.92E-09	1.93E-04	1.33E-12
Lake Tahoe	2045	SBUS	Aggregated	Aggregated	DSL	17.76790322	611.2998	0	3.91E-05	6.39E-08	4.62E-04	2.95E-11	0.00020576[illegible]	2.06E-04	3.37E-07	4.62E-04	1.55E-10	0.000921422	9.21E-04	1.51E-06	4.62E-04	6.96E-10	2.14E-06	2.14E-06	3.50E-09	4.62E-04	1.62E-12	2.05E-06	2.05E-06	3.35E-09	4.62E-04	1.55E-12	7.94E-06	1.30E-08	4.62E-04	6.00E-12
Lake Tahoe	2045	T6 CAIRP heavy	Aggregated	Aggregated	DSL	1.21395274	55.64516	0	2.58E-06	4.64E-08	4.20E-05	1.95E-12	1.36E-05	1.36E-05	2.44E-07	4.20E-05	1.03E-11	6.48E-05	6.48E-05	1.16E-06	4.20E-05	4.89E-11	1.76E-07	1.76E-07	3.17E-09	4.20E-05	1.33E-13	1.69E-07	1.69E-07	3.03E-09	4.20E-05	1.27E-13	6.63E-07	1.19E-08	4.20E-05	5.01E-13
Lake Tahoe	2045	T6 CAIRP small	Aggregated	Aggregated	DSL	3.100481024	170.8169	0	7.52E-06	4.40E-08	1.29E-04	5.68E-12	3.96E-05	3.96E-05	2.32E-07	1.29E-04	2.99E-11	0.000183664	1.84E-04	1.08E-06	1.29E-04	1.39E-10	5.03E-07	5.03E-07	2.95E-09	1.29E-04	3.80E-13	4.81E-07	4.81E-07	2.82E-09	1.29E-04	3.64E-13	2.08E-06	1.22E-08	1.29E-04	1.57E-12
Lake Tahoe	2045	T6 instate construction heavy	Aggregated	Aggregated	DSL	20.77644313	1626.212	0	8.42E-05	5.18E-08	1.23E-03	6.36E-11	0.00044333	4.43E-04	2.73E-07	1.23E-03	3.35E-10	0.002222022	2.22E-03	1.37E-06	1.23E-03	1.68E-09	5.97E-06	5.97E-06	3.67E-09	1.23E-03	4.51E-12	5.71E-06	5.71E-06	3.51E-09	1.23E-03	4.32E-12	1.98E-05	1.22E-08	1.23E-03	1.49E-11
Lake Tahoe	2045	T6 instate construction small	Aggregated	Aggregated	DSL	94.94510268	4368.639	0	0.000209451	4.79E-08	3.30E-03	1.58E-10	0.001102445	1.10E-03	2.52E-07	3.30E-03	8.33E-10	0.005337745	5.34E-03	1.22E-06	3.30E-03	4.03E-09	1.45E-05	1.45E-05	3.31E-09	3.30E-03	1.09E-11	1.38E-05	1.38E-05	3.17E-09	3.30E-03	1.05E-11	5.32E-05	1.22E-08	3.30E-03	4.02E-11
Lake Tahoe	2045	T6 instate heavy	Aggregated	Aggregated	DSL	206.5047482	9229.196	0	0.000484751	5.25E-08	6.97E-03	3.66E-10	0.00255089	2.55E-03	2.76E-07	6.97E-03	1.93E-09	0.012872174	1.29E-02	1.39E-06	6.97E-03	9.72E-09	3.45E-05	3.45E-05	3.74E-09	6.97E-03	2.61E-11	3.30E-05	3.30E-05	3.58E-09	6.97E-03	2.50E-11	0.000110057	1.19E-08	6.97E-03	8.31E-11
Lake Tahoe	2045	T6 instate small	Aggregated	Aggregated	DSL	506.2458592	21425.92	0	0.00109948	5.13E-08	1.62E-02	8.31E-10	0.005784023	5.78E-03	2.70E-07	1.62E-02	4.37E-09	0.028911786	2.89E-02	1.35E-06	1.62E-02	2.18E-08	7.79E-05	7.79E-05	3.64E-09	1.62E-02	5.89E-11	7.46E-05	7.46E-05	3.48E-09	1.62E-02	5.63E-11	0.000261015	1.22E-08	1.62E-02	1.97E-10
Lake Tahoe	2045	T6 OOS heavy	Aggregated	Aggregated	DSL	0.695807431	31.88259	0	1.48E-06	4.64E-08	2.41E-05	1.12E-12	7.79E-06	7.79E-06	2.44E-07	2.41E-05	5.88E-12	3.71E-05	3.71E-05	1.16E-06	2.41E-05	2.80E-11	1.01E-07	1.01E-07	3.17E-09	2.41E-05	7.63E-14	9.67E-08	9.67E-08	3.03E-09	2.41E-05	7.30E-14	3.80E-07	1.19E-08	2.41E-05	2.87E-13
Lake Tahoe	2045	T6 OOS small	Aggregated	Aggregated	DSL	1.776459106	97.87168	0	4.31E-06	4.40E-08	7.39E-05	3.26E-12	2.27E-05	2.27E-05	2.32E-07	7.39E-05	1.71E-11	0.000105233	1.05E-04	1.08E-06	7.39E-05	7.95E-11	2.88E-07	2.88E-07	2.95E-09	7.39E-05	2.18E-13	2.76E-07	2.76E-07	2.82E-09	7.39E-05	2.08E-13	1.19E-06	1.22E-08	7.39E-05	8.99E-13
Lake Tahoe	2045	T6 Public	Aggregated	Aggregated	DSL	146.3038727	2460.425	0	9.58E-05	3.89E-08	1.86E-03	7.24E-11	0.00044925	4.99E-04	2.03E-07	1.86E-03	3.77E-10	0.00221401	2.21E-03	9.00E-07	1.86E-03	1.67E-09	6.49E-06	6.49E-06	2.64E-09	1.86E-03	4.90E-12	6.20E-06	6.20E-06	2.52E-09	1.86E-03	4.69E-12	3.00E-05	1.22E-08	1.86E-03	2.26E-11
Lake Tahoe	2045	T6 utility	Aggregated	Aggregated	DSL	5.043591857	94.91823	0	3.43E-06	3.62E-08	7.17E-05	2.59E-12	1.81E-05	1.81E-05	1.90E-07	7.17E-05	1.37E-11	7.44E-05	7.44E-05	7.84E-07	7.17E-05	5.62E-11	2.10E-07	2.10E-07	2.21E-09	7.17E-05	1.58E-13	2.01E-07	2.01E-07	2.11E-09	7.17E-05	1.52E-13	1.15E-06	1.22E-08	7.17E-05	8.72E-13
Lake Tahoe	2045	T6TS	Aggregated	Aggregated	GAS	56.13521826	3017.677	1123.153	3.41E-05	1.13E-08	2.28E-03	2.57E-11	0.000611739	6.12E-04	2.03E-07	2.28E-03	4.62E-10	0.000335361	3.35E-04	1.11E-07	2.28E-03	2.53E-10	4.71E-06	4.71E-06	1.56E-09	2.28E-03	3.56E-12	4.33E-06	4.33E-06	1.43E-09	2.28E-03	3.27E-12	4.02E-05	1.33E-08	2.28E-03	3.04E-11
Lake Tahoe	2045	T7 CAIRP	Aggregated	Aggregated	DSL	34.61200804	8512.181	0	0.000723362	8.50E-08	6.43E-03	5.46E-10	0.004271043	4.27E-03	5.02E-07	6.43E-03	3.23E-09	0.012613178	1.26E-02	1.48E-06	6.43E-03	9.53E-09	5.14E-05	5.14E-05	6.04E-09	6.43E-03	3.89E-11	4.92E-05	4.92E-05	5.78E-09	6.43E-03	3.72E-11	0.000127955	1.50E-08	6.43E-03	9.67E-11
Lake Tahoe	2045	T7 CAIRP construction	Aggregated	Aggregated	DSL	5.668138716	1153.622	0	0.00010089	8.75E-08	8.71E-04	7.62E-11	0.000595719	5.96E-04	5.16E-07	8.71E-04	4.50E-10	0.001776071	1.78E-03	1.54E-06	8.71E-04	1.34E-09	7.23E-06	7.23E-06	6.27E-09	8.71E-04	5.46E-12	6.92E-06	6.92E-06	6.00E-09	8.71E-04	5.23E-12	1.77E-05	1.54E-08	8.71E-04	1.34E-11
Lake Tahoe	2045	T7 NNOOS	Aggregated	Aggregated	DSL	44.37953273	10555.11	0	0.000790663	7.49E-08	7.97E-03	5.97E-10	0.004668682	4.67E-03	4.42E-07	7.97E-03	3.53E-09	0.01305413	1.31E-02	1.24E-06	7.97E-03	9.86E-09	5.40E-05	5.40E-05	5.11E-09	7.97E-03	4.08E-11	5.16E-05	5.16E-05	4.89E-09	7.97E-03	3.90E-11	0.000158598	1.50E-08	7.97E-03	1.20E-10
Lake Tahoe	2045	T7 NOOS	Aggregated	Aggregated	DSL	13.67985404	3362.309	0	0.000285753	8.50E-08	2.54E-03	2.16E-10	0.001687209	1.69E-03	5.02E-07	2.54E-03	1.27E-09	0.004983384	4.98E-03	1.48E-06	2.54E-03	3.76E-09	2.03E-05	2.03E-05	6.04E-09	2.54E-03	1.53E-11	1.94E-05	1.94E-05	5.78E-09	2.54E-03	1.47E-11	5.05E-05	1.50E-08	2.54E-03	3.82E-11
Lake Tahoe	2045	T7 Public	Aggregated	Aggregated	DSL	94.13172742	2157.633	0	0.000131949	6.12E-08	1.63E-03	9.97E-11	0.000745916	7.46E-04	3.46E-07	1.63E-03	5.63E-10	0.002620302	2.62E-03	1.21E-06	1.63E-03	1.98E-09	1.17E-05	1.17E-05	5.41E-09	1.63E-03	8.81E-12	1.12E-05	1.12E-05	5.17E-09	1.63E-03	8.43E-12	3.35E-05	1.55E-08	1.63E-03	2.53E-11
Lake Tahoe	2045	T7 Single	Aggregated	Aggregated	DSL	24.32652643	2621.338	0	0.000196559	7.50E-08	1.98E-03	1.48E-10	0.001160634	1.16E-03	4.43E-07	1.98E-03	8.77E-10	0.003329493	3.33E-03	1.27E-06	1.98E-03	2.52E-09	1.34E-05	1.34E-05	5.11E-09	1.98E-03	1.01E-11	1.28E-05	1.28E-05	4.89E-09	1.98E-03	9.68E-12	4.04E-05	1.54E-08	1.98E-03	3.06E-11
Lake Tahoe	2045	T7 single construction	Aggregated	Aggregated	DSL	31.60161103	2984.269	0	0.000213838	7.17E-08	2.25E-03	1.62E-10	0.001262364	1.26E-03	4.23E-07	2.25E-03	9.54E-10	0.00352883	3.53E-03	1.18E-06	2.25E-03	2.67E-09	1.44E-05	1.44E-05	4.81E-09	2.25E-03	1.09E-11	1.37E-05	1.37E-05	4.61E-09	2.25E-03	1.04E-11	4.60E-05	1.54E-08	2.25E-03	3.47E-11
Lake Tahoe	2045	T7 SWCV	Aggregated	Aggregated	DSL	0.249219389	11.51625	0	1.13E-06	9.86E-08	8.70E-06	8.57E-13	3.14E-06	3.14E-06	2.73E-07	8.70E-06	2.37E-12	8.69E-05	8.69E-05	7.55E-06	8.70E-06	6.56E-11	1.26E-07	1.26E-07	1.10E-08	8.70E-06	9.54E-14	1.21E-07	1.21E-07	1.05E-08	8.70E-06	9.12E-14	5.50E-07	4.78E-08	8.70E-06	4.16E-13
Lake Tahoe	2045	T7 tractor	Aggregated	Aggregated	DSL	1.071543732	106.1593	0	9.89E-06	9.31E-08	8.02E-05	7.47E-12	5.83E-05	5.83E-05	5.49E-07	8.02E-05	4.40E-11	0.000183963	1.84E-04	1.73E-06	8.02E-05	1.39E-10	7.22E-07	7.22E-07	6.80E-09	8.02E-05	5.45E-13	6.91E-07	6.91E-07	6.51E-09	8.02E-05	5.22E-13	1.61E-06	1.51E-08	8.02E-05	1.21E-12
Lake Tahoe	2045	T7 tractor construction	Aggregated	Aggregated	DSL	26.30903041	2224.993	0	0.000199714	8.98E-08	1.68E-03	1.51E-10	0.001179212	1.18E-03	5.30E-07	1.68E-03	8.91E-10	0.003559637	3.56E-03	1.60E-06	1.68E-03	2.69E-09	1.44E-05	1.44E-05	6.48E-09	1.68E-03	1.09E-11	1.38E-05	1.38E-05	6.20E-09	1.68E-03	1.04E-11	3.42E-05	1.54E-08	1.68E-03	2.58E-11
Lake Tahoe	2045	T7 utility	Aggregated	Aggregated	DSL	2.135207895	48.75989	0	2.67E-06	5.48E-08	3.68E-05	2.02E-12	1.58E-05	1.58E-05	3.23E-07	3.68E-05	1.19E-11	3.68E-05	3.68E-05	7.54E-07	3.68E-05	2.78E-11	1.59E-07	1.59E-07	3.26E-09	3.68E-05	1.20E-13	1.52E-07	1.52E-07	3.12E-09	3.68E-05	1.15E-13	7.48E-07	1.53E-08	3.68E-05	5.65E-13
Lake Tahoe	2045	T7IS	Aggregated	Aggregated	GAS	3.24227396	396.9723	64.87142	0.000142885	3.60E-07	3.00E-04	1.08E-10	0.013360517	1.34E-02	3.37E-05	3.00E-04	1.01E-08	0.001562159	1.56E-03	3.94E-06	3.00E-04	1.18E-09	5.06E-07	5.06E-07	1.28E-09	3.00E-04	3.83E-13	4.66E-07	4.66E-07	1.17E-09	3.00E-04	3.52E-13	7.23E-06	1.82E-08	3.00E-04	5.46E-12
Lake Tahoe	2045	UBUS	Aggregated	Aggregated	GAS	4.247593157	719.2259	16.99037	1.72E-05	2.40E-08	5.43E-04	1.30E-11	0.000324992	3.25E-04	4.52E-07	5.43E-04	2.45E-10	0.000316057	3.16E-04	4.39E-07	5.43E-04	2.39E-10	1.89E-06	1.89E-06	2.63E-09	5.43E-04	1.43E-12	1.74E-06	1.74E-06	2.42E-09	5.43E-04	1.31E-12	1.27E-05	1.77E-08	5.43E-04	9.62E-12
Lake Tahoe	2045	UBUS	Aggregated	Aggregated	DSL	4.402782192	739.3087	17.61113	6.03E-05	8.16E-08	5.58E-04	4.56E-11	0.002756504	2.76E-03	3.73E-06	5.58E-04	2.08E-09	0.001903382	1.90E-03	2.57E-06	5.58E-04	1.44E-09	8.30E-06	8.30E-06	1.12E-08	5.58E-04	6.27E-12	7.94E-06	7.94E-06	1.07E-08	5.58E-04	6.00E-12	1.40E-05	1.90E-08	5.58E-04	1.06E-11

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air Basin
Region: Lake Tahoe
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption
*Emissions rates calculated using Emissions Inventory in order to use off-model adjustment factors to account for effects of the SAFE Rule.

Weighted Emissions Rates			
ROG	0.017	PM_{10}	0.0016
CO	0.517	$PM_{2.5}$	0.0015
NO_x	0.134	SO_x	0.0025

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	Emission Rate (g/mile)	Weight	Weighted Emissions Rate	CO_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate	NOx_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate	PM10_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate	PM2.5_RUNEX	Adjusted for SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate	SOx_RUNEX	Emission Rate (g/mile)	Weight	Weighted Emissions Rate
Lake Tahoe	2045	All Other Buses	Aggregate	Aggregate	Diesel	4.474195612	89.76176	37.58324	1.3491E-06	1.50E-08	6.82E-05	1.03E-12	1.73965E-05	1.74E-05	1.94E-07	6.82E-05	1.32E-11	0.00027449	2.74E-04	3.06E-06	6.82E-05	2.09E-10	8.50255E-07	8.50E-07	9.47E-09	6.82E-05	6.46E-13	8.13474E-07	8.13E-07	9.06E-09	6.82E-05	6.18E-13	1.05889E-06	1.18E-08	6.82E-05	8.05E-13
Lake Tahoe	2045	LDA	Aggregate	Aggregate	Gasoline	18076.39294	694834.3	83426.73	0.001519275	2.19E-09	5.28E-01	1.15E-09	0.332438713	3.32E-01	4.78E-07	5.28E-01	2.53E-07	0.016909959	1.69E-02	2.43E-08	5.28E-01	1.29E-08	0.000481057	4.81E-04	6.92E-10	5.28E-01	3.66E-10	0.000442314	4.42E-04	6.37E-10	5.28E-01	3.36E-10	0.001473374	2.12E-09	5.28E-01	1.12E-09
Lake Tahoe	2045	LDA	Aggregate	Aggregate	Diesel	225.7929853	8679.488	1042.106	6.6885E-05	7.71E-09	6.60E-03	5.08E-11	0.002169242	2.17E-03	2.50E-07	6.60E-03	1.65E-09	0.000130112	1.30E-04	1.50E-08	6.60E-03	9.89E-11	9.75283E-06	9.75E-06	1.12E-09	6.60E-03	7.41E-12	9.33093E-06	9.33E-06	1.08E-09	6.60E-03	7.09E-12	1.44478E-05	1.66E-09	6.60E-03	1.10E-11
Lake Tahoe	2045	LDA	Aggregate	Aggregate	Electricity	1168.729611	47864.24	5448.667	0	0.00E+00	3.64E-02	0.00E+00	0	0.00E+00	0.00E+00	3.64E-02	0.00E+00	0	0.00E+00	0.00E+00	3.64E-02	0.00E+00	0	0.00E+00	0.00E+00	3.64E-02	0.00E+00	0	0.00E+00	0.00E+00	3.64E-02	0.00E+00	0	0.00E+00	0.00E+00	3.64E-02	0.00E+00
Lake Tahoe	2045	LDT1	Aggregate	Aggregate	Gasoline	1803.389487	67272.2	8135.354	0.000155165	2.31E-09	5.11E-02	1.18E-10	0.032416128	3.24E-02	4.82E-07	5.11E-02	2.46E-08	0.001696934	1.70E-03	2.52E-08	5.11E-02	1.29E-09	4.90282E-05	4.90E-05	7.29E-10	5.11E-02	3.73E-11	4.50796E-05	4.51E-05	6.70E-10	5.11E-02	3.43E-11	0.000164872	2.45E-09	5.11E-02	1.25E-10
Lake Tahoe	2045	LDT1	Aggregate	Aggregate	Diesel	0.281994524	9.538715	1.213139	2.49547E-07	2.62E-08	7.25E-06	1.90E-13	2.6477E-06	2.65E-06	2.78E-07	7.25E-06	2.01E-12	9.42586E-07	9.43E-07	9.88E-08	7.25E-06	7.16E-13	7.18677E-08	7.19E-08	7.53E-09	7.25E-06	5.46E-14	6.87587E-08	6.88E-08	7.21E-09	7.25E-06	5.23E-14	3.07257E-08	3.22E-09	7.25E-06	2.34E-14
Lake Tahoe	2045	LDT1	Aggregate	Aggregate	Electricity	66.11956	2714.011	307.778	0	0.00E+00	2.06E-03	0.00E+00	0	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0	0.00E+00	0.00E+00	2.06E-03	0.00E+00	0	0.00E+00	0.00E+00	2.06E-03	0.00E+00
Lake Tahoe	2045	LDT2	Aggregate	Aggregate	Gasoline	6276.464111	226965.7	27951.19	0.000744937	3.28E-09	1.73E-01	5.66E-10	0.12712676	1.27E-01	5.60E-07	1.73E-01	9.66E-08	0.005672446	5.67E-03	2.50E-08	1.73E-01	4.31E-09	0.000164823	1.65E-04	7.26E-10	1.73E-01	1.25E-10	0.000151549	1.52E-04	6.68E-10	1.73E-01	1.15E-10	0.000560498	2.47E-09	1.73E-01	4.26E-10
Lake Tahoe	2045	LDT2	Aggregate	Aggregate	Diesel	61.93634584	2339.034	281.3315	5.50409E-05	2.35E-08	1.78E-03	4.18E-11	0.000592532	5.93E-04	2.53E-07	1.78E-03	4.50E-10	9.68292E-05	9.68E-05	4.14E-08	1.78E-03	7.36E-11	1.30624E-05	1.31E-05	5.58E-09	1.78E-03	9.93E-12	1.24974E-05	1.25E-05	5.34E-09	1.78E-03	9.50E-12	5.20792E-06	2.23E-09	1.78E-03	3.96E-12
Lake Tahoe	2045	LDT2	Aggregate	Aggregate	Electricity	256.8522853	7278.033	1195.304	0	0.00E+00	5.53E-03	0.00E+00	0	0.00E+00	0.00E+00	5.53E-03	0.00E+00	0	0.00E+00	0.00E+00	5.53E-03	0.00E+00	0	0.00E+00	0.00E+00	5.53E-03	0.00E+00	0	0.00E+00	0.00E+00	5.53E-03	0.00E+00	0	0.00E+00	0.00E+00	5.53E-03	0.00E+00
Lake Tahoe	2045	LHD1	Aggregate	Aggregate	Gasoline	427.8497867	15304.31	6374.324	0.000115658	7.56E-09	1.16E-02	8.79E-11	0.002654255	2.65E-03	1.73E-07	1.16E-02	2.02E-09	0.002111817	2.11E-03	1.38E-07	1.16E-02	1.61E-09	3.65644E-05	3.66E-05	2.39E-09	1.16E-02	2.78E-11	3.36196E-05	3.36E-05	2.20E-09	1.16E-02	2.56E-11	0.000138957	9.08E-09	1.16E-02	1.06E-10
Lake Tahoe	2045	LHD1	Aggregate	Aggregate	Diesel	325.494183	12362.96	4094.307	0.001746812	1.41E-07	9.40E-03	1.33E-09	0.008334263	8.33E-03	6.74E-07	9.40E-03	6.33E-09	0.003848975	3.85E-03	3.11E-07	9.40E-03	2.93E-09	0.000132021	1.32E-04	1.07E-08	9.40E-03	1.00E-10	0.00012631	1.26E-04	1.02E-08	9.40E-03	9.60E-11	5.74108E-05	4.64E-09	9.40E-03	4.36E-11
Lake Tahoe	2045	LHD2	Aggregate	Aggregate	Gasoline	45.60167246	1794.849	679.397	1.18164E-05	6.58E-09	1.36E-03	8.98E-12	0.000287856	2.88E-04	1.60E-07	1.36E-03	2.19E-10	0.000275347	2.75E-04	1.53E-07	1.36E-03	2.09E-10	4.2876E-06	4.29E-06	2.39E-09	1.36E-03	3.26E-12	3.94229E-06	3.94E-06	2.20E-09	1.36E-03	3.00E-12	1.83728E-05	1.02E-08	1.36E-03	1.40E-11
Lake Tahoe	2045	LHD2	Aggregate	Aggregate	Diesel	145.0789066	5127.101	1824.91	0.000746302	1.46E-07	3.90E-03	5.67E-10	0.003655772	3.66E-03	7.13E-07	3.90E-03	2.78E-09	0.00226622	2.27E-03	4.42E-07	3.90E-03	1.72E-09	0.000110677	1.11E-04	2.16E-08	3.90E-03	8.41E-11	0.000105889	1.06E-04	2.07E-08	3.90E-03	8.05E-11	2.72759E-05	5.32E-09	3.90E-03	2.07E-11
Lake Tahoe	2045	MDV	Aggregate	Aggregate	Gasoline	927.5653881	6269.453	1855.131	0.017946575	2.86E-06	4.76E-03	1.36E-08	0.13876699	1.39E-01	2.21E-05	4.76E-03	1.05E-07	0.00870125	8.70E-03	1.39E-06	4.76E-03	6.61E-09	1.76129E-05	1.76E-05	2.81E-09	4.76E-03	1.34E-11	1.64221E-05	1.64E-05	2.62E-09	4.76E-03	1.25E-11	1.50646E-05	2.40E-09	4.76E-03	1.14E-11
Lake Tahoe	2045	MDV	Aggregate	Aggregate	Gasoline	3918.469112	137684.7	17258.64	0.0005451	3.96E-09	1.05E-01	4.14E-10	0.080201907	8.02E-02	5.83E-07	1.05E-01	6.10E-08	0.003972843	3.97E-03	2.89E-08	1.05E-01	3.02E-09	0.000100219	1.00E-04	7.28E-10	1.05E-01	7.62E-11	9.21473E-05	9.21E-05	6.69E-10	1.05E-01	7.00E-11	0.000413091	3.00E-09	1.05E-01	3.14E-10
Lake Tahoe	2045	MDV	Aggregate	Aggregate	Diesel	135.8143196	4999.957	612.2369	4.20272E-05	8.41E-09	3.80E-03	3.19E-11	0.001325193	1.33E-03	2.65E-07	3.80E-03	1.01E-09	8.22814E-05	8.23E-05	1.65E-08	3.80E-03	6.25E-11	6.71446E-06	6.71E-06	1.34E-09	3.80E-03	5.10E-12	6.424E-06	6.42E-06	1.28E-09	3.80E-03	4.88E-12	1.43426E-05	2.87E-09	3.80E-03	1.09E-11
Lake Tahoe	2045	MDV	Aggregate	Aggregate	Electricity	182.0280576	5180.592	848.5145	0	0.00E+00	3.94E-03	0.00E+00	0	0.00E+00	0.00E+00	3.94E-03	0.00E+00	0	0.00E+00	0.00E+00	3.94E-03	0.00E+00	0	0.00E+00	0.00E+00	3.94E-03	0.00E+00	0	0.00E+00	0.00E+00	3.94E-03	0.00E+00	0	0.00E+00	0.00E+00	3.94E-03	0.00E+00
Lake Tahoe	2045	MH	Aggregate	Aggregate	Gasoline	48.28938646	558.3261	4.83087	6.46528E-06	1.16E-08	4.24E-04	4.91E-12	9.96121E-05	9.96E-05	1.78E-07	4.24E-04	7.57E-11	0.000132424	1.32E-04	2.37E-07	4.24E-04	1.01E-10	8.6253E-07	8.63E-07	1.54E-09	4.24E-04	6.56E-13	7.93064E-07	7.93E-07	1.42E-09	4.24E-04	6.03E-13	8.65005E-06	1.55E-08	4.24E-04	6.57E-12
Lake Tahoe	2045	MH	Aggregate	Aggregate	Diesel	30.26855911	279.905	3.026856	2.79335E-05	9.98E-08	2.13E-04	2.12E-11	8.70012E-05	8.70E-05	3.11E-07	2.13E-04	6.61E-11	0.000910521	9.11E-04	3.25E-06	2.13E-04	6.92E-10	1.43159E-05	1.43E-05	5.11E-08	2.13E-04	1.09E-11	1.36966E-05	1.37E-05	4.89E-08	2.13E-04	1.04E-11	2.54215E-06	9.08E-09	2.13E-04	1.93E-12
Lake Tahoe	2045	Motor Coach	Aggregate	Aggregate	Diesel	12.42754209	1553.112	181.4421	3.0979E-05	1.99E-08	1.18E-03	2.35E-11	0.000287883	2.88E-04	1.85E-07	1.18E-03	2.19E-10	0.003049549	3.05E-03	1.96E-06	1.18E-03	2.32E-09	3.89381E-05	3.89E-05	2.51E-08	1.18E-03	2.96E-11	3.72537E-05	3.73E-05	2.40E-08	1.18E-03	2.83E-11	1.89502E-05	1.22E-08	1.18E-03	1.44E-11
Lake Tahoe	2045	OBUS	Aggregate	Aggregate	Gasoline	9.976956218	497.8143	199.6189	1.10245E-02	2.21E-08	3.78E-04	8.38E-12	0.000206904	2.07E-04	4.16E-07	3.78E-04	1.57E-10	0.000261377	2.61E-04	5.25E-07	3.78E-04	1.99E-10	7.50123E-07	7.50E-07	1.51E-09	3.78E-04	5.70E-13	6.8971E-07	6.90E-07	1.39E-09	3.78E-04	5.24E-13	7.77377E-06	1.56E-08	3.78E-04	5.91E-12
Lake Tahoe	2045	PTO	Aggregate	Aggregate	Diesel	0	232.0613	0	6.46924E-06	2.79E-08	1.76E-04	4.92E-12	0.000103657	1.04E-04	4.47E-07	1.76E-04	7.88E-11	0.001177715	1.18E-03	5.08E-06	1.76E-04	8.95E-10	1.22696E-06	1.23E-06	5.29E-09	1.76E-04	9.33E-13	1.17388E-06	1.17E-06	5.06E-09	1.76E-04	8.92E-13	3.59608E-06	1.55E-08	1.76E-04	2.73E-12
Lake Tahoe	2045	SBUS	Aggregate	Aggregate	Gasoline	6.128002804	302.4541	24.51201	3.74616E-06	1.24E-08	2.30E-04	2.85E-12	6.61366E-05	6.61E-05	2.19E-07	2.30E-04	5.03E-11	5.10995E-05	5.11E-05	1.69E-07	2.30E-04	3.88E-11	5.38551E-07	5.39E-07	1.78E-09	2.30E-04	4.09E-13	4.95178E-07	4.95E-07	1.64E-09	2.30E-04	3.76E-13	2.31134E-06	7.64E-09	2.30E-04	1.76E-12
Lake Tahoe	2045	SBUS	Aggregate	Aggregate	Diesel	24.97806222	792.2016	288.2434	7.83432E-06	9.89E-09	6.02E-04	5.95E-12	8.57818E-05	8.58E-05	1.08E-07	6.02E-04	6.52E-11	0.001244895	1.24E-03	1.57E-06	6.02E-04	9.46E-10	6.73535E-06	6.74E-06	8.50E-09	6.02E-04	5.12E-12	6.44398E-06	6.44E-06	8.13E-09	6.02E-04	4.90E-12	6.80815E-06	8.59E-09	6.02E-04	5.17E-12
Lake Tahoe	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.005160895	0.322812	0.075349	3.95182E-09	1.22E-08	2.45E-07	3.00E-15	3.27517E-08	3.28E-08	1.01E-07	2.45E-07	2.49E-14	6.37735E-07	6.38E-07	1.98E-06	2.45E-07	4.85E-13	7.41015E-09	7.41E-09	2.30E-08	2.45E-07	5.63E-15	7.08959E-09	7.09E-09	2.20E-08	2.45E-07	5.39E-15	3.19949E-09	9.91E-09	2.45E-07	2.43E-15
Lake Tahoe	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.002278352	0.045244	0.033264	5.51127E-10	1.22E-08	3.44E-08	4.19E-16	4.5676E-09	4.57E-09	1.01E-07	3.44E-08	3.47E-15	8.81002E-08	8.81E-08	1.95E-06	3.44E-08	6.70E-14	1.02988E-09	1.03E-09	2.28E-08	3.44E-08	7.83E-16	9.85328E-10	9.85E-10	2.18E-08	3.44E-08	7.49E-16	4.63783E-10	1.03E-08	3.44E-08	3.52E-16
Lake Tahoe	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	30.79550121	2061.896	139.2253	3.79732E-05	1.84E-08	1.57E-03	2.89E-11	0.000469402	4.69E-04	2.28E-07	1.57E-03	3.57E-10	0.005680346	5.68E-03	2.75E-06	1.57E-03	4.32E-09	2.48937E-05	2.49E-05	1.21E-08	1.57E-03	1.89E-11	2.38168E-05	2.38E-05	1.16E-08	1.57E-03	1.81E-11	2.13822E-05	1.04E-08	1.57E-03	1.63E-11
Lake Tahoe	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	109.0532801	5392.838	493.0256	8.76014E-05	1.62E-08	4.10E-03	6.66E-11	0.001095619	1.10E-03	2.03E-07	4.10E-03	8.33E-10	0.012315013	1.23E-02	2.28E-06	4.10E-03	9.36E-09	5.07309E-05	5.07E-05	9.41E-09	4.10E-03	3.86E-11	4.85363E-05	4.85E-05	9.00E-09	4.10E-03	3.69E-11	5.26561E-05	9.76E-09	4.10E-03	4.00E-11
Lake Tahoe	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	70.50254768	7289.936	813.5896	7.51672E-05	1.03E-08	5.54E-03	5.71E-11	0.000849283	8.49E-04	1.17E-07	5.54E-03	6.45E-10	0.01241971	1.24E-02	1.70E-06	5.54E-03	9.44E-09	5.92194E-05	5.92E-05	8.12E-09	5.54E-03	4.50E-11	5.66576E-05	5.67E-05	7.77E-09	5.54E-03	4.31E-11	5.61143E-05	7.70E-09	5.54E-03	4.26E-11
Lake Tahoe	2045	T6 instate small	Aggregate	Aggregate	Diesel	221.9318884	9975.648	2561.063	9.89473E-05	9.92E-09	7.58E-03	7.52E-11	0.001124717	1.12E-03	1.13E-07	7.58E-03	8.55E-10	0.016053003	1.61E-02	1.61E-06	7.58E-03	1.22E-08	7.51223E-05	7.51E-05	7.53E-09	7.58E-03	5.71E-11	7.18725E-05	7.19E-05	7.20E-09	7.58E-03	5.46E-11	8.30109E-05	8.32E-09	7.58E-03	6.31E-11
Lake Tahoe	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.002716523	0.168345	0.039661	2.05742E-09	1.22E-08	1.28E-07	1.56E-15	1.70513E-08	1.71E-08	1.01E-07	1.28E-07	1.30E-14	3.30968E-07	3.31E-07	1.97E-06	1.28E-07	2.52E-13	3.85347E-09	3.85E-09	2.29E-08	1.28E-07	2.93E-15	3.68677E-09	3.69E-09	2.19E-08	1.28E-07	2.80E-15	1.66593E-09	9.90E-09	1.28E-07	1.27E-15
Lake Tahoe	2045	T6 OOS small	Aggregate	Aggregate	Diesel	0.006030987	0.137617	0.088052	1.69736E-09	1.23E-08	1.05E-07	1.29E-15	1.40673E-08	1.41E-08	1.02E-07	1.05E-07	1.07E-14	2.78E-07	2.78E-07	2.02E-06	1.05E-07	2.11E-13	3.19915E-09	3.20E-09	2.32E-08	1.05E-07	2.43E-15	3.06075E-09	3.06E-09	2.22E-08	1.05E-07	2.33E-15	1.42248E-09	1.03E-08	1.05E-07	1.08E-15
Lake Tahoe	2045	T6 Public	Aggregate	Aggregate	Diesel	157.8903187	2454.75	478.934	2.85608E-05	1.16E-08	1.87E-03	2.17E-11	0.000306948	3.07E-04	1.25E-07	1.87E-03	2.33E-10	0.003472345	3.47E-03	1.41E-06	1.87E-03	2.64E-09	1.19192E-05	1.19E-05	4.86E-09	1.87E-03	9.06E-12	1.14036E-05	1.14E-05	4.65E-09	1.87E-03	8.67E-12	2.19753E-05	8.95E-09	1.87E-03	1.67E-11
Lake Tahoe	2045	T6 utility	Aggregate	Aggregate	Diesel	5.37737046	89.59712	61.83976	7.17368E-07	8.01E-09	6.81E-05	5.45E-13	8.39586E-06	8.40E-06	9.37E-08	6.81E-05	6.38E-12	9.34333E-05	9.34E-05	1.04E-06	6.81E-05	7.10E-11	3.3419E-07	3.34E-07	3.73E-09	6.81E-05	2.54E-13	3.19733E-07	3.20E-07	3.57E-09	6.81E-05	2.43E-13	7.33524E-07	8.19E-09	6.81E-05	5.58E-13
Lake Tahoe	2045	T6TS	Aggregate	Aggregate	Gasoline	64.92888759	3585.329	1299.097	4.06846E-05	1.13E-08	2.72E-03	3.09E-11	0.000728023	7.28E-04	2.03E-07	2.72E-03	5.53E-10	0.000384602	3.85E-04	1.07E-07	2.72E-03	2.92E-10	5.61286E-06	5.61E-06	1.57E-09	2.72E-03	4.27E-12	5.16082E-06	5.16E-06	1.44E-09	2.72E-03	3.92E-12	5.50798E-05	1.54E-08	2.72E-03	4.19E-11
Lake Tahoe	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	8.481161437	1481.078	38.343	5.78078E-05	3.90E-08	1.13E-03	4.39E-11	0.000905409	8.05E-04	5.44E-07	1.13E-03	6.12E-10	0.006575346	6.58E-03	4.44E-06	1.13E-03	5.00E-09	3.42736E-05	3.43E-05	2.31E-08	1.13E-03	2.60E-11	3.2791E-05	3.28E-05	2.21E-08	1.13E-03	2.49E-11	1.96768E-05	1.33E-08	1.13E-03	1.50E-11
Lake Tahoe	2045	T7 CAIRP construction	Aggregate	Aggregate	Electricity	62.32820436	1054.136	909.9902	0.000209905	2.07E-08	7.72E-03	1.60E-10	0.001950615	1.95E-03	1.92E-07	7.72E-03	1.48E-09	0.021049044	2.10E-02	2.07E-06	7.72E-03	1.60E-08	0.000275335	2.75E-04	2.71E-08	7.72E-03	2.09E-10	0.000263424	2.63E-04	2.59E-08	7.72E-03	2.00E-10	9.94275E-05	9.79E-09	7.72E-03	7.56E-11
Lake Tahoe	2045	T7 NOOS	Aggregate	Aggregate	Diesel	15.63027505	3215.181	228.202	7.08419E-05	2.20E-08	2.44E-03	5.38E-11	0.000658322	6.58E-04	2.05E-07	2.44E-03	5.00E-10	0.007325817	7.33E-03	2.28E-06	2.44E-03	5.57E-09	9.95185E-05	9.95E-05	3.10E-08	2.44E-03	7.56E-11	9.5213E-05	9.52E-05	2.96E-08	2.44E-03	7.24E-11	3.14917E-05	9.79E-09	2.44E-03	2.39E-11
Lake Tahoe	2045	T7 Public	Aggregate	Aggregate	Diesel	100.3988503	2033.856	304.5432	5.90306E-05	2.90E-08	1.55E-03	4.49E-11	0.000582138	5.82E-04	2.86E-07	1.55E-03	4.42E-10	0.00529304	5.29E-03	2.60E-06	1.55E-03	4.02E-09	1.93425E-05	1.93E-05	9.51E-09	1.55E-03	1.47E-11	1.85058E-05	1.85E-05	9.10E-09	1.55E-03	1.41E-11	2.57855E-05	1.27E-08	1.55E-03	1.96E-11
Lake Tahoe	2045	T7 Single construction	Aggregate	Aggregate	Diesel	14.43218071	1168.707	166.5454	2.29787E-05	1.97E-08	8.88E-04	1.75E-11	0.000280918	2.81E-04	2.40E-07	8.88E-04	2.14E-10	0.002726614	2.73E-03	2.33E-06	8.88E-04	2.07E-09	1.64391E-05	1.64E-05	1.41E-08	8.88E-04	1.25E-11	1.57279E-05	1.57E-05	1.35E-08	8.88E-04	1.20E-11	1.34342E-05	1.15E-08	8.88E-04	1.02E-11
Lake Tahoe	2045	T7 single construction	Aggregate	Aggregate	Diesel	48.1697689	3674.282	217.7737	0.000125542	3.42E-08	2.79E-03	9.54E-11	0.001739985	1.74E-03	4.74E-07	2.79E-03	1.32E-09	0.013263637	1.33E-02	3.61E-06	2.79E-03	1.01E-08	6.31672E-05	6.32E-05	1.72E-08	2.79E-03	4.80E-11	6.04347E-05	6.04E-05	1.64E-08	2.79E-03	4.59E-11	5.12839E-05	1.40E-08	2.79E-03	3.90E-11
Lake Tahoe	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	0.451728929	56.08202	5.736957	1.12484E-06	2.01E-08	4.26E-05	8.55E-13	9.71612E-06	9.72E-06	1.73E-07	4.26E-05	7.38E-12	0.000109258	1.09E-04	1.95E-06	4.26E-05	8.30E-11	1.65446E-06	1.65E-06	2.95E-08	4.26E-05	1.26E-12	1.58289E-06	1.58E-06	2.82E-08	4.26E-05	1.20E-12	5.34143E-07	9.52E-09	4.26E-05	4.06E-13
Lake Tahoe	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	40.83205441	3030.959	184.6001	0.000122087	4.03E-08	2.30E-03	9.28E-11	0.001699143	1.70E-03	5.61E-07	2.30E-03	1.29E-09	0.014060311	1.41E-02	4.64E-06	2.30E-03	1.07E-08	7.44519E-05	7.45E-05	2.46E-08	2.30E-03	5.66E-11	7.12311E-05	7.12E-05	2.35E-08	2.30E-03	5.41E-11	4.14873E-05	1.37E-08	2.30E-03	3.15E-11
Lake Tahoe	2045	T7 utility construction	Aggregate	Aggregate	Diesel	1.9711495	39.95983	22.66822	6.93674E-07	1.74E-08	3.04E-05	5.27E-13	9.0403E-06	9.04E-06	2.26E-07	3.04E-05	6.87E-12	7.62203E-05	7.62E-05	1.91E-06	3.04E-05	5.79E-11	3.05687E-07	3.06E-07	7.65E-09	3.04E-05	2.32E-13	2.92463E-07	2.92E-07	7.32E-09	3.04E-05	2.22E-13	4.86375E-07	1.22E-08	3.04E-05	3.70E-13
Lake Tahoe	2045	T7IS	Aggregate	Aggregate	Gasoline	0.257652303	32.80351	5.155107	1.16884E-05	3.56E-07	2.49E-05	8.88E-12	0.001098066	1.10E-03	3.35E-05	2.49E-05	8.35E-10	0.000129566	1.30E-04	3.95E-06	2.49E-05	9.85E-11	4.19876E-08	4.20E-08	1.28E-09	2.49E-05	3.19E-14	3.86061E-08	3.86E-08	1.18E-09	2.49E-05	2.93E-14	5.47128E-07	1.67E-08	2.49E-05	4.16E-13
Lake Tahoe	2045	UBUS	Aggregated	Aggregated	DSL	4.402782192	739.3087	17.61113	6.03E-05	8.16E-08	5.62E-04	4.59E-11	0.002756504	2.76E-03	3.73E-06	5.62E-04	2.10E-09	0.001903382	1.90E-03	2.57E-06	5.62E-04	1.45E-09	8.30E-06	8.30E-06	1.12E-08	5.62E-04	6.31E-12	7.94E-06	7.94E-06	1.07E-08	5.62E-04	6.03E-12	1.40E-05	1.90E-08	5.62E-04	1.07E-11

Appendix B

Basinwide Mobile Source Criteria Pollutant Emissions Calculations

Emissions Estimates (tons/day)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2018	1.32	2.35	10.33	0.01	0.18	0.09
2045	0.24	0.62	2.54	0.01	0.16	0.07
Net Change	-1.08	-1.72	-7.79	-0.01	-0.03	-0.02
2045 - Adjusted for SAFE Rule	0.24	0.62	2.57	0.01	0.16	0.07
Net Change Adjusted for SAFE Rule	-1.08	-1.72	-7.76	-0.01	-0.03	-0.02

Emissions Estimates (pounds/day)						
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2018	2641.35	4691.34	20669.40	27.49	365.14	178.30
2045	473.54	1243.02	5088.46	15.69	313.48	130.17
Net Change	-2167.81	-3448.32	-15580.94	-11.80	-51.66	-48.13
2045 - Adjusted for SAFE Rule	473.54	1244.48	5149.27	15.69	313.54	130.22
Net Change Adjusted for SAFE Rule	-2167.81	-3446.87	-15520.13	-11.80	-51.60	-48.08

SAFE Rule Adjustment Factors - 2045	
NO_X Exhaust	1.0124
PM Exhaust	1.0303
CO Exhaust	1.0306

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf?_ga=2.55946991.5546

Planning Inventory Report
Date: 07/28/2020
Time: 12:02:16
EMFAC2017 Version: v1.0.2

Field Name	Pollutant	Units	Process
TOG_RUNEX	Total Organic Gases	Tons Per Day	Running Exhaust
TOG_IDLEX	Total Organic Gases	Tons Per Day	Idle Exhaust
TOG_STREX	Total Organic Gases	Tons Per Day	Start Exhaust
TOG_TOTEX	Total Organic Gases	Tons Per Day	Total Exhaust
TOG_DIURN	Total Organic Gases	Tons Per Day	Diurnal
TOG_HTSK	Total Organic Gases	Tons Per Day	Hot Soak
TOG_RUNLS	Total Organic Gases	Tons Per Day	Running Loss
TOG_RESTL	Total Organic Gases	Tons Per Day	Resting Loss
TOG_TOTAL	Total Organic Gases	Tons Per Day	Total
ROG_RUNEX	Reactive Organic Gases	Tons Per Day	Running Exhaust
ROG_IDLEX	Reactive Organic Gases	Tons Per Day	Idle Exhaust
ROG_STREX	Reactive Organic Gases	Tons Per Day	Start Exhaust
ROG_TOTEX	Reactive Organic Gases	Tons Per Day	Total Exhaust
ROG_DIURN	Reactive Organic Gases	Tons Per Day	Diurnal
ROG_HTSK	Reactive Organic Gases	Tons Per Day	Hot Soak
ROG_RUNLS	Reactive Organic Gases	Tons Per Day	Running Loss
ROG_RESTL	Reactive Organic Gases	Tons Per Day	Resting Loss
ROG_TOTAL	Reactive Organic Gases	Tons Per Day	Total
CO_RUNEX	Carbon Monoxide	Tons Per Day	Running Exhaust
CO_IDLEX	Carbon Monoxide	Tons Per Day	Idle Exhaust
CO_STREX	Carbon Monoxide	Tons Per Day	Start Exhaust
CO_TOTEX	Carbon Monoxide	Tons Per Day	Total
NOx_RUNEX	Nitrogen Dioxide	Tons Per Day	Running Exhaust
NOx_IDLEX	Nitrogen Dioxide	Tons Per Day	Idle Exhaust
NOx_STREX	Nitrogen Dioxide	Tons Per Day	Start Exhaust
NOx_TOTEX	Nitrogen Dioxide	Tons Per Day	Total
CO2_RUNEX	Carbon Dioxide	Tons Per Day	Running Exhaust
CO2_IDLEX	Carbon Dioxide	Tons Per Day	Idle Exhaust
CO2_STREX	Carbon Dioxide	Tons Per Day	Start Exhaust
CO2_TOTEX	Carbon Dioxide	Tons Per Day	Total
PM10_RUNEX	Fine Particulate Matter (<10 microns)	Tons Per Day	Running Exhaust
PM10_IDLEX	Fine Particulate Matter (<10 microns)	Tons Per Day	Idle Exhaust
PM10_STREX	Fine Particulate Matter (<10 microns)	Tons Per Day	Start Exhaust
PM10_TOTEX	Fine Particulate Matter (<10 microns)	Tons Per Day	Total Exhaust
PM10_PMTW	Fine Particulate Matter (<10 microns)	Tons Per Day	Tire Wear
PM10_PMBW	Fine Particulate Matter (<10 microns)	Tons Per Day	Brake Wear
PM10_TOTAL	Fine Particulate Matter (<10 microns)	Tons Per Day	Total
PM2_5_RUNEX	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Running Exhaust
PM2_5_IDLEX	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Idle Exhaust
PM2_5_STREX	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Start Exhaust
PM2_5_TOTEX	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Total Exhaust
PM2_5_PMTW	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Tire Wear
PM2_5_PMBW	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Brake Wear
PM2_5_TOTAL	Fine Particulate Matter (<2.5 microns)	Tons Per Day	Total
SOx_RUNEX	Sulfur Oxides	Tons Per Day	Running Exhaust
SOx_IDLEX	Sulfur Oxides	Tons Per Day	Idle Exhaust
SOx_STREX	Sulfur Oxides	Tons Per Day	Start Exhaust
SOx_TOTEX	Sulfur Oxides	Tons Per Day	Total
Fuel_GAS	Fuel	1000s Gallons	Gasoline
Fuel_DSL	Fuel	1000s Gallons	Diesel

Area	Sub-Area	Cal. Year	Season	Veh_Tech	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_RESTL	ROG_TOTAL	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	NOx_RUNEX	NOx_IDLEX	NOx_STREX	NOx_TOTEX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_TOTEX	PM10_PMTW	PM10_PMBW	PM10_TOTAL	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_TOTEX	PM2_5_PMTW	PM2_5_PMBW	PM2_5_TOTAL	SOx_RUNEX	SOx_IDLEX	SOx_STREX	SOx_TOTEX
Lake Tahoe	All Sub-Areas	2018	Winter	All Vehicles	38,461.1	1,338,870.0	196,848.2	0.1731	0.0030	0.1859	0.3620	0.0013	0.0536	0.2429	0.0005	0.6603	4.17	0.0321	0.9670	5.17	0.9996	0.0407	0.1325	1.17	667.3	5.50	12.3	685.1	0.0143	0.0002	0.0005	0.0150	0.0131	0.0632	0.0913	0.0135	0.0002	0.0005	0.0142	0.0033	0.0271	0.0446	0.0067	0.0001	0.0001	0.0069
Lake Tahoe	All Sub-Areas	2018	Winter	ALL OTHER BUSES - DSL	29.7	1,327.8	249.8	0.0015	0.0000		0.0015					0.0015	0.0037	0.0001		0.0038	0.0131	0.0003	0.0002	0.0136	1.82	0.0203		1.84	0.0006	0.0000		0.0006	0.0000	0.0002	0.0008	0.0006	0.0000		0.0006	0.0000	0.0001	0.0007	0.0000	0.0000		0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	LDA - DSL	131.1	4,920.2	594.4	0.0003			0.0003					0.0003	0.0027			0.0027	0.0023			0.0023	1.34			1.34	0.0002			0.0002	0.0000	0.0002	0.0004	0.0002			0.0002	0.0000	0.0001	0.0003	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	LDA - GAS	11,204.9	408,879.7	50,568.1	0.0280		0.0458	0.0738	0.0004	0.0141	0.0304	0.0001	0.1188	1.04		0.2358	1.27	0.0874		0.0249	0.1123	134.8		3.21	138.0	0.0013		0.0002	0.0016	0.0016	0.0216	0.0232	0.0012		0.0002	0.0015	0.0009	0.0071	0.0093	0.0014		0.0000	0.0014
Lake Tahoe	All Sub-Areas	2018	Winter	LDT1 - DSL	4.42	70.1	15.2	0.0000			0.0000					0.0000	0.0001			0.0001	0.0003			0.0003	0.0392			0.0392	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	LDT1 - GAS	2,843.8	93,535.0	12,279.8	0.0101		0.0171	0.0271	0.0002	0.0062	0.0316	0.0001	0.0652	0.3774		0.0586	0.4360	0.0368		0.0088	0.0457	36.1		0.9217	37.0	0.0004		0.0001	0.0005	0.0008	0.0038	0.0051	0.0004		0.0001	0.0004	0.0002	0.0016	0.0023	0.0004		0.0000	0.0004
Lake Tahoe	All Sub-Areas	2018	Winter	LDT2 - DSL	48.2	2,162.0	234.1	0.0001			0.0001					0.0001	0.0005			0.0005	0.0003			0.0003	0.7845			0.7845	0.0000			0.0000	0.0000	0.0001	0.0001	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	LDT2 - GAS	11,094.4	406,770.1	49,933.8	0.0250		0.0567	0.0817	0.0004	0.0139	0.0653	0.0001	0.1614	1.05		0.2871	1.34	0.1414		0.0403	0.1817	177.7		4.22	181.9	0.0010		0.0001	0.0012	0.0036	0.0165	0.0213	0.0010		0.0001	0.0011	0.0009	0.0071	0.0091	0.0018		0.0000	0.0018
Lake Tahoe	All Sub-Areas	2018	Winter	LHD1 - DSL	1,096.7	40,479.7	13,795.4	0.0099	0.0001		0.0100					0.0100	0.0460	0.0011		0.0471	0.1917	0.0031		0.1948	26.1	0.1700		26.3	0.0019	0.0000		0.0019	0.0005	0.0034	0.0058	0.0018	0.0000		0.0018	0.0001	0.0015	0.0034	0.0002	0.0000		0.0003
Lake Tahoe	All Sub-Areas	2018	Winter	LHD1 - GAS	1,269.9	41,120.5	18,920.1	0.0104	0.0007	0.0051	0.0163	0.0000	0.0053	0.0518	0.0000	0.0734	0.2654	0.0051	0.0678	0.3383	0.0327	0.0001	0.0136	0.0464	47.1	0.1622	0.3261	47.6	0.0002		0.0000	0.0002	0.0004	0.0035	0.0040	0.0002		0.0000	0.0002	0.0001	0.0015	0.0018	0.0005	0.0000	0.0000	0.0005
Lake Tahoe	All Sub-Areas	2018	Winter	LHD2 - DSL	301.6	12,131.1	3,793.8	0.0024	0.0000		0.0024					0.0024	0.0108	0.0003		0.0111	0.0357	0.0008		0.0365	8.74	0.0746		8.81	0.0004		0.0000	0.0004	0.0002	0.0012	0.0018	0.0004	0.0000		0.0004	0.0000	0.0001	0.0005	0.0010	0.0001		0.0000	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	LHD2 - GAS	130.1	4,474.3	1,937.8	0.0009	0.0001	0.0005	0.0014	0.0000	0.0004	0.0047	0.0000	0.0065	0.0229	0.0005	0.0064	0.0299	0.0027	0.0000	0.0013	0.0040	5.88	0.0193	0.0388	5.94	0.0000		0.0000	0.0000	0.0000	0.0004	0.0005	0.0000		0.0000	0.0000	0.0000	0.0000	0.0002	0.0001	0.0000		0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	MCY - GAS	1,474.2	10,295.6	2,948.5	0.0393		0.0120	0.0513	0.0001	0.0032	0.0141	0.0000	0.0688	0.3493		0.0456	0.3948	0.0157		0.0011	0.0168	1.92		0.1435	2.06	0.0000		0.0000	0.0000	0.0001	0.0002	0.0003	0.0000		0.0000	0.0000	0.0001	0.0000	0.0001	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	MDV - DSL	144.0	6,543.3	691.8	0.0002			0.0002					0.0002	0.0025			0.0025	0.0012			0.0012	3.09			3.09	0.0001			0.0001	0.0001	0.0002	0.0004	0.0001			0.0001	0.0000	0.0000	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	MDV - GAS	7,516.5	249,080.2	33,275.2	0.0241		0.0479	0.0720	0.0003	0.0100	0.0425	0.0001	0.1250	0.8766		0.2474	1.12	0.0947		0.0338	0.1285	129.1		3.39	132.5	0.0007		0.0001	0.0008	0.0022	0.0101	0.0131	0.0006		0.0001	0.0007	0.0005	0.0043	0.0056	0.0013		0.0000	0.0013
Lake Tahoe	All Sub-Areas	2018	Winter	MH - DSL	82.0	792.7	8.26	0.0001			0.0001					0.0001	0.0005			0.0005	0.0054			0.0054	0.9305			0.9305	0.0001			0.0001	0.0000	0.0001	0.0003	0.0001			0.0001	0.0000	0.0000	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	MH - GAS	271.6	2,184.1	27.2	0.0007		0.0000	0.0008	0.0000	0.0000	0.0001	0.0000	0.0009	0.0288		0.0002	0.0290	0.0028		0.0000	0.0028	4.46		0.0007	4.46	0.0000		0.0000	0.0000	0.0000	0.0003	0.0004	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	MOTOR COACH - DSL	11.0	1,382.3	160.8	0.0005	0.0001		0.0006					0.0006	0.0017	0.0008		0.0025	0.0097	0.0013	0.0002	0.0112	2.42	0.1327		2.55	0.0002	0.0000		0.0003	0.0000	0.0002	0.0005	0.0002	0.0000		0.0002	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	OBUS - GAS	25.4	1,354.2	509.0	0.0003	0.0000	0.0001	0.0004	0.0000	0.0000	0.0003	0.0000	0.0008	0.0066	0.0002	0.0035	0.0102	0.0021	0.0000	0.0002	0.0023	2.76	0.0105	0.0119	2.79	0.0000		0.0000	0.0000	0.0000	0.0002	0.0002	0.0000		0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	PTO - DSL	0	118.8		0.0001			0.0001					0.0001	0.0004			0.0004	0.0017			0.0017	0.2765			0.2765	0.0000			0.0000	0	0	0.0000	0.0000			0.0000	0	0	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	SBUS - DSL	47.5	1,492.8	552.8	0.0002	0.0000		0.0002					0.0002	0.0005	0.0003		0.0008	0.0188	0.0027	0.0002	0.0218	1.94	0.1807		2.12	0.0001	0.0000		0.0001	0.0000	0.0012	0.0014	0.0001	0.0000		0.0001	0.0000	0.0000	0.0000	0.0001	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	SBUS - GAS	0.8439	42.4	3.38	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0003	0.0001	0.0002	0.0000	0.0000	0.0000	0.0000	0.0402	0.0022	0.0001	0.0426	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 AG - DSL	0.0000	0.0000	0.0000	0	0		0					0	0			0	0			0	0.0000	0.0000		0.0000	0	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0
Lake Tahoe	All Sub-Areas	2018	Winter	T6 CARP HEAVY - DSL	1.41	274.0	20.5	0.0000	0.0000		0.0000					0.0000	0.0001	0.0000		0.0001	0.0007	0.0000	0.0000	0.0007	0.2971	0.0010		0.2981	0.0000	0.0000		0.0000	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 CARP SMALL - DSL	0.6836	35.4	9.98	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0001	0.0003	0.0000	0.0000	0.0003	0.0405	0.0000		0.0406	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 INSTATE CONSTRUCTION HEAVY - DSL	24.2	1,604.9	109.3	0.0013	0.0000		0.0013					0.0013	0.0034	0.0001		0.0025	0.0120	0.0002	0.0001	0.0123	2.27	0.0170		2.28	0.0004	0.0000		0.0004	0.0000	0.0002	0.0007	0.0004	0.0000		0.0004	0.0000	0.0001	0.0005	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 INSTATE CONSTRUCTION SMALL - DSL	75.4	3,743.8	340.8	0.0027	0.0000		0.0027					0.0027	0.0056	0.0002		0.0058	0.0229	0.0006	0.0005	0.0239	5.27	0.0543		5.32	0.0008	0.0000		0.0008	0.0000	0.0005	0.0014	0.0008	0.0000		0.0008	0.0000	0.0002	0.0010	0.0000	0.0000		0.0000	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	T6 INSTATE HEAVY - DSL	21.9	2,793.2	252.7	0.0013	0.0000		0.0013					0.0013	0.0031	0.0001		0.0032	0.0163	0.0002	0.0003	0.0167	3.24	0.0149		3.25	0.0006	0.0000		0.0006	0.0000	0.0004	0.0010	0.0006	0.0000		0.0006	0.0000	0.0002	0.0007	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 INSTATE SMALL - DSL	126.8	5,544.0	1,462.8	0.0030	0.0000		0.0030					0.0030	0.0076	0.0004		0.0083	0.0353	0.0012	0.0012	0.0377	6.90	0.0910		6.99	0.0013	0.0000		0.0013	0.0001	0.0008	0.0022	0.0013	0.0000		0.0012	0.0000	0.0003	0.0016	0.0001	0.0000		0.0001	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	T6 OOS HEAVY - DSL	0.8595	166.1	12.5	0.0000	0.0000		0.0000					0.0000	0.0001	0.0000		0.0001	0.0004	0.0000	0.0000	0.0004	0.1804	0.0006		0.1810	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 OOS SMALL - DSL	0.4431	22.9	6.47	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0001	0.0000	0.0000	0.0000	0.0001	0.0261	0.0003		0.0264	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 PUBLIC - DSL	99.9	1,587.2	303.0	0.0001	0.0000		0.0012					0.0012	0.0097	0.0004		0.0054	0.0006	0.0000	0.0004	0.0144	7.08	0.3646		7.44	0.0001	0.0000		0.0001	0.0000	0.0003	0.0004	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T6 UTILITY - DSL	5.80	97.2	66.7	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0000	0.0002	0.0001	0.0001	0.0004	0.1177	0.0115		0.1291	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	TSTS - GAS	66.3	7,615.2	1,326.2	0.0012	0.0001	0.0006	0.0019	0.0000	0.0003	0.0021	0.0000	0.0042	0.0314	0.0014	0.0147	0.0475	0.0071	0.0000	0.0008	0.0079	5.31	0.0359	0.0489	5.39	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	T7 AG - DSL	1.61	12.4	7.08	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0003	0.0220	0.0027		0.0248	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 CARP - DSL	43.0	8,403.0	627.9	0.0011	0.0005		0.0016					0.0016	0.0042	0.0059		0.0102	0.0377	0.0067	0.0011	0.0454	13.4	1.21		14.7	0.0006	0.0000		0.0007	0.0003	0.0006	0.0016	0.0006	0.0000		0.0007	0.0003	0.0000	0.0010	0.0000	0.0001		0.0001	0.0002
Lake Tahoe	All Sub-Areas	2018	Winter	T7 CARP CONSTRUCTION - DSL	5.87	1,152.8	26.6	0.0004	0.0000		0.0004					0.0004	0.0012	0.0001		0.0014	0.0073	0.0002	0.0001	0.0076	2.34	0.0254		2.36	0.0001	0.0000		0.0001	0.0000	0.0001	0.0003	0.0001	0.0000		0.0001	0.0000	0.0000	0.0001	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 NNOS - DSL	49.7	10,270.5	726.2	0.0014	0.0007		0.0021					0.0021	0.0056	0.0086		0.0144	0.0386	0.0087	0.0014	0.0487	15.8	1.63		17.4	0.0009	0.0000		0.0009	0.0004	0.0007	0.0020	0.0009	0.0000		0.0008	0.0004	0.0000	0.0013	0.0000	0.0002		0.0002	0.0002
Lake Tahoe	All Sub-Areas	2018	Winter	T7 NOOS - DSL	16.9	3,291.5	246.2	0.0004	0.0002		0.0007					0.0007	0.0017	0.0029		0.0046	0.0147	0.0032	0.0004	0.0184	5.27	0.5927		5.86	0.0002	0.0000		0.0003	0.0001	0.0002	0.0006	0.0002	0.0000		0.0002	0.0001	0.0000	0.0004	0.0001	0.0000		0.0001	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	T7 OTHER PORT - DSL	0.0000	0.0004	0.0000	0.0000	0		0.0000					0.0000	0.0000	0		0.0000	0.0000	0	0	0.0000	0.0000	0.0000		0.0000	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0
Lake Tahoe	All Sub-Areas	2018	Winter	T7 POAK - DSL	0.0000	0.0003	0.0000	0	0		0					0.0000	0.0000	0		0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000		0.0000	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0
Lake Tahoe	All Sub-Areas	2018	Winter	T7 POLA - DSL	0.0000	0.0003	0.0000	0.0000	0		0					0.0000	0.0000	0		0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000		0.0000	0	0		0	0	0	0	0	0		0	0	0	0	0	0		0
Lake Tahoe	All Sub-Areas	2018	Winter	T7 PUBLIC - DSL	100.0	2,036.3	303.4	0.0004	0.0001		0.0005					0.0005	0.0012	0.0010		0.0022	0.0231	0.0042	0.0005	0.0388	4.17	0.3477		4.52	0.0002	0.0000		0.0002	0.0001	0.0001	0.0004	0.0002	0.0000		0.0002	0.0001	0.0000	0.0003	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 SINGLE - DSL	9.41	598.2	108.6	0.0005	0.0000		0.0005					0.0005	0.0014	0.0002		0.0016	0.0074	0.0003	0.0001	0.0078	1.10	0.0288		1.13	0.0002	0.0000		0.0002	0.0000	0.0000	0.0003	0.0002	0.0000		0.0002	0.0000	0.0000	0.0002	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 SINGLE CONSTRUCTION - DSL	41.8	2,859.9	189.0	0.0029	0.0001		0.0030					0.0030	0.0064	0.0008		0.0072	0.0310	0.0012	0.0004	0.0326	6.02	0.1392		6.16	0.0008	0.0000		0.0008	0.0001	0.0002	0.0011	0.0008	0.0000		0.0008	0.0001	0.0000	0.0009	0.0001	0.0000		0.0001	0.0001
Lake Tahoe	All Sub-Areas	2018	Winter	T7 SWCV - DSL	3.99	163.1	15.6	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0000	0.0040	0.0000	0	0.0043	0.8352	0.0172		0.8524	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 TRACTOR - DSL	0.4660	58.5	5.82	0.0000	0.0000		0.0000					0.0000	0.0001	0.0000		0.0001	0.0009	0.0000	0.0000	0.0009	0.0999	0.0018		0.0978	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 TRACTOR CONSTRUCTION - DSL	33.7	2,359.1	152.4	0.0023	0.0001		0.0024					0.0024	0.0054	0.0007		0.0061	0.0242	0.0010	0.0004	0.0255	4.99	0.1304		5.12	0.0006	0.0000		0.0006	0.0001	0.0002	0.0008	0.0006	0.0000		0.0005	0.0000	0.0001	0.0006	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	T7 UTILITY - DSL	2.52	51.2	29.0	0.0000	0.0000		0.0000					0.0000	0.0000	0.0000		0.0000	0.0003	0.0000	0.0001	0.0004	0.0977	0.0049		0.1025	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	TTS - GAS	0.0097	2.57	0.1738	0.0000		0.0000	0.0000	0	0.0000	0.0000	0	0.0000	0.0000		0.0000	0.0001	0.0000		0.0000	0.0053		0.0000	0.0053	0.0000		0	0.0000	0.0000	0.0000	0.0000	0.0000		0	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	UBUS - DSL	0.0004	0.0400	0.0017	0.0000			0.0000					0.0000	0.0000			0.0000	0.0000			0.0000	0.0001			0.0001	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	0.0000			0.0000
Lake Tahoe	All Sub-Areas	2018	Winter	UBUS - GAS	0.0004	0.0320	0.0016	0.0000		0.0000	0.0000	0	0	0.0000	0	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0		0	0.0000	0.0000	0.0000	0.0000	0.0000		0	0.0000	0.0000	0.0000	0.0000	0.0000		0	0.0000

Area	Subarea	Sub Area Code	Wk Ending	Passengers	VKT	Trips	ADA AMPK	ADA OFPK	ADA OPPK	ADA NIGHT	ADA TOTAL	ADA STRB	ADA STOD	ADA ALBA	ADA ARRA	ADA DEST	CO AMPK	CO OFPK	CO OPPK	CO NIGHT	CO TOTAL	CO STRB	CO STOD	CO ALBA	CO ARRA	CO DEST	NO AMPK	NO OFPK	NO OPPK	NO NIGHT	NO TOTAL	NO STRB	NO STOD	NO ALBA	NO ARRA	NO DEST	PK1 AMPK	PK1 OFPK	PK1 OPPK	PK1 NIGHT	PK1 TOTAL	PK1 STRB	PK1 STOD	PK1 ALBA	PK1 ARRA	PK1 DEST	PK2 AMPK	PK2 OFPK	PK2 OPPK	PK2 NIGHT	PK2 TOTAL	PK2 STRB	PK2 STOD	PK2 ALBA	PK2 ARRA	PK2 DEST
MB Area	MB Area	MB Area	20010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20022	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20026	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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MB Area	MB Area	MB Area	20029	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20030	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MB Area	MB Area	MB Area	20035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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MB Area	MB Area	MB Area	20037	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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Appendix C

Harbor Craft, Dredge and Barge Emission Factor Calculator Results

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Input Data Page

INSTRUCTIONS:
1. Enter inputs into tables A1, A2, A3, and A4 below. Required inputs must be entered to estimate emission rates, optional inputs should be entered if available.
2. After entering inputs, review status and error messages (cell E14); make changes as necessary until this cell is green indicating that inputs are ready.
3. Results may be reviewed in "MainEngineEmissRates" and "AuxEngineEmissRates" tabs, both colored yellow.

Inputs and Status

Inputs color legend	Required Input
	Optional Input
Status and error messages	OK. Default values will be applied to blank model year and HP

A1. Inventory Calendar year

Inventory Calendar Year	2045

A4. Project Information

Inputs	
Date (mm/dd/yyyy):	8/7/2020
Project Name:	TRPA RTP/SCS
Project Location:	Lake Tahoe
Contact Person:	Annaliese Miller
Company Name:	Rincon Consultants
Mailing Address:	209 E Victoria Street, Suite B, Santa Barbara, CA 93101
Phone Number:	805-869-1323
Email Address:	amiller@rinconconsultants.com

A2. Main Engine Inputs

Required Inputs			Optional Inputs			
Vessel Name	**Vessel Type**	**No. of Engines**	**Engine Model Year**	**Engine Rated Power (hp)**	**Vessel Number**	**Home Port**
North Shore Water Taxi	Ferries	2				

A3. Auxiliary Engine Inputs

Required Inputs			Optional Inputs	
Vessel Name	**Auxiliary Engine Type**	**No. of Engines**	**Engine Model Year**	**Engine Rated Power (hp)**
North Shore Water Taxi	Ferries Generator	2		

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Main Engine Emission Rates

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information								Emission Rates (lb/hr; estimates for each row are totals over the number of engines listed in column J for that row)										Emission Rates for a Single Engine (g/bhp-hr)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore W			Ferries	2025	392	0.42	2	0.083	0.074	3.322	0.512	3.384	0.004	428.958	0.017	0.003	430.430	0.114	0.101	4.577	0.705	4.663	0.006	591.045	0.024	0.005	593.1

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Auxiliary Engine Emission Rates

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information									Emission Rates (lb/hr; estimates for each row are totals over the number of engines listed in column K for that row)										Emission Rates for a Single Engine (g/bhp-hr)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Auxiliary Engine Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of Engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Wa			Ferries	Ferries Generator	2025	82	0.43	2	0.042	0.037	0.890	0.168	0.670	0.001	91.470	0.004	0.001	91.783	0.27	0.24	5.75	1.09	4.33	0.006	591.04	0.02	0.00	593.1

Rincon Calculations of Main Engine Emissions

Hours of Use Per Day per Ferry	8
Number of Ferries	1
Number of Days of Operation per Year for Ferries	122

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information								Emissions (lbs/day; estimates for each row are totals over the number of engines listed in column H for that row)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Water Taxi			Ferries	2025	391.9048	0.42	2	0.7	0.6	26.6	4.1	27.1	0.0	3431.7	0.1	0.0	3443.4

Vessel Name	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Water Taxi	0.04	0.04	1.62	0.25	1.65	0.0020	189.9	0.0077	0.0015	190.5

Rincon Calculations of Auxiliary Engine Emissions

Hours of Use Per Day per Ferry	8
Number of Ferries	1
Number of Days of Operation per Year for Ferries	122

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information									Emissions (lbs/day; estimates for each row are totals over the number of engines listed in column H for that row)									
Vessel Name	**Vessel Number**	**Home Port**	**Vessel Type**	**Auxiliary Engine Type**	**Engine Model Year**	**Engine Rated Power (hp)**	**Engine Load Factor**	**Number of Engines**	**PM_{10}**	**$PM_{2.5}$**	**NOx**	**ROG**	**CO**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
North Shore Water Taxi			Ferries	Ferries Generator	2025	82	0.43	2	0.3	0.3	7.1	1.3	5.4	0.0	731.8	0.0	0.0	734.3

Vessel Name	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	**$PM_{2.5}$**	**NOx**	**ROG**	**CO**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
North Shore Water Taxi	0.02	0.02	0.43	0.08	0.33	0.00	40.487	0.00	0.000	40.626

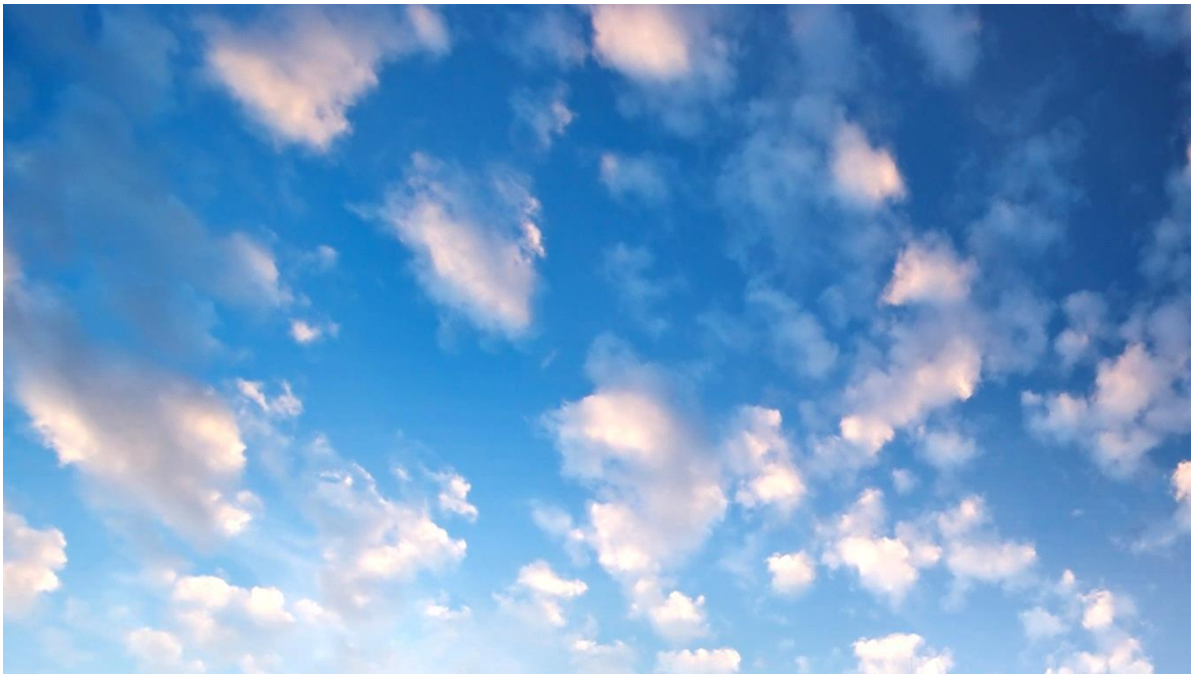
Rincon Summary Emission Calculations

	Emissions (lbs/day)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
Main Engine	0.7	0.6	26.6	4.1	27.1	0.0	3431.7	0.1	0.0	3443.4
Auxilary Engine	0.3	0.3	7.1	1.3	5.4	0.0	731.8	0.0	0.0	734.3
Total Emissions	1.0	0.9	33.7	5.4	32.4	0.0	4163.4	0.2	0.0	4177.7

	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
Main Engine	0.0	0.0	1.6	0.2	1.7	0.0	189.9	0.0	0.0	190.5
Auxilary Engine	0.0	0.0	0.4	0.1	0.3	0.0	40.5	0.0	0.0	40.6
Total Emissions	0.1	0.1	2.1	0.3	2.0	0.0	230.4	0.0	0.0	231.1

Appendix F

Greenhouse Gas Emissions Study



2045 Linking Tahoe: Regional Transportation Plan & Sustainable Communities Strategy

Greenhouse Gas Study

prepared by

Tahoe Regional Planning Agency
Long Range & Transportation Planning
128 Market Street
Stateline, Nevada 89449
Contact: Rebecca Cremeen, Acting Senior Planner

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August 2020

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Environmental Scientists | Planners | Engineers
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1 Project Description

This report is an analysis of the potential climate change impacts of the Tahoe Regional Planning Agency's (TRPA) proposed 2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The report has been prepared by Rincon Consultants, Inc. under contract to TRPA for use in support of the environmental documentation being prepared pursuant to the California Environmental Quality Act (CEQA) and TRPA requirements.

As shown in Figure 1, the Plan Area is located in the Lake Tahoe Region and lies across the state line of California and Nevada, between the Sierra Nevada crest and the Carson Range. Approximately two thirds of the region is located in California, with one third within Nevada. The Plan Area contains approximately 325,000 acres, of which approximately 123,000 acres comprise the surface of Lake Tahoe. Lake Tahoe is the dominant feature of the Plan Area and is the primary focus of local environmental regulations to protect its exceptional clarity.

The 2045 RTP is the transportation element of the Lake Tahoe Regional Plan. Every four years, TRPA prepares a RTP/SCS that outlines the overall vision for developing, operating, and maintaining the Lake Tahoe Region's transportation system. This 2045 RTP/SCS builds from the 2017 RTP/SCS to offer innovative strategies that offset transportation impacts including micro-mobility strategies such as e-bikes and e-scooters and new or enhanced inter-regional transit service. The 2045 RTP/SCS's goals, carried over and updated from the 2017 RTP/SCS, are organized around addressing the local community and Tahoe visitor's transportation needs while also meeting state and federal planning and reporting requirements.

Policies have been updated in response to new plans implemented since the 2017 RTP/SCS update as well as, federal and state requirements, and for consistency with local planning efforts. Policies support active transportation, connections between recreational access areas, prioritizing an integrated transit system, collaborate with regional and interregional partners, making efficient use of the existing network through technology, monitoring, increasing safety, and supporting the economic growth and vitality of the region. These policies build from the 2017 RTP/SCS while strengthening and restating some policies for clarity.

New policies were included in the 2045 RTP/SCS to reflect state requirements including California Senate Bill (SB) 375, which set regional targets for reducing greenhouse gas emissions by using the regional transportation planning process; the Americans with Disabilities Act (ADA); and Community Priority Zones. Policies were also added for the purpose of incentivizing new travel models such as micro transit, on-demand mobility services, and the use of electric assisted devices.

The goal and policy concepts as described above were presented to the public and stakeholders, and input from these groups was incorporated into the development of the 2045 RTP/SCS. The land use scenario envisioned by the 2045 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas.

Figure 1 Plan Area

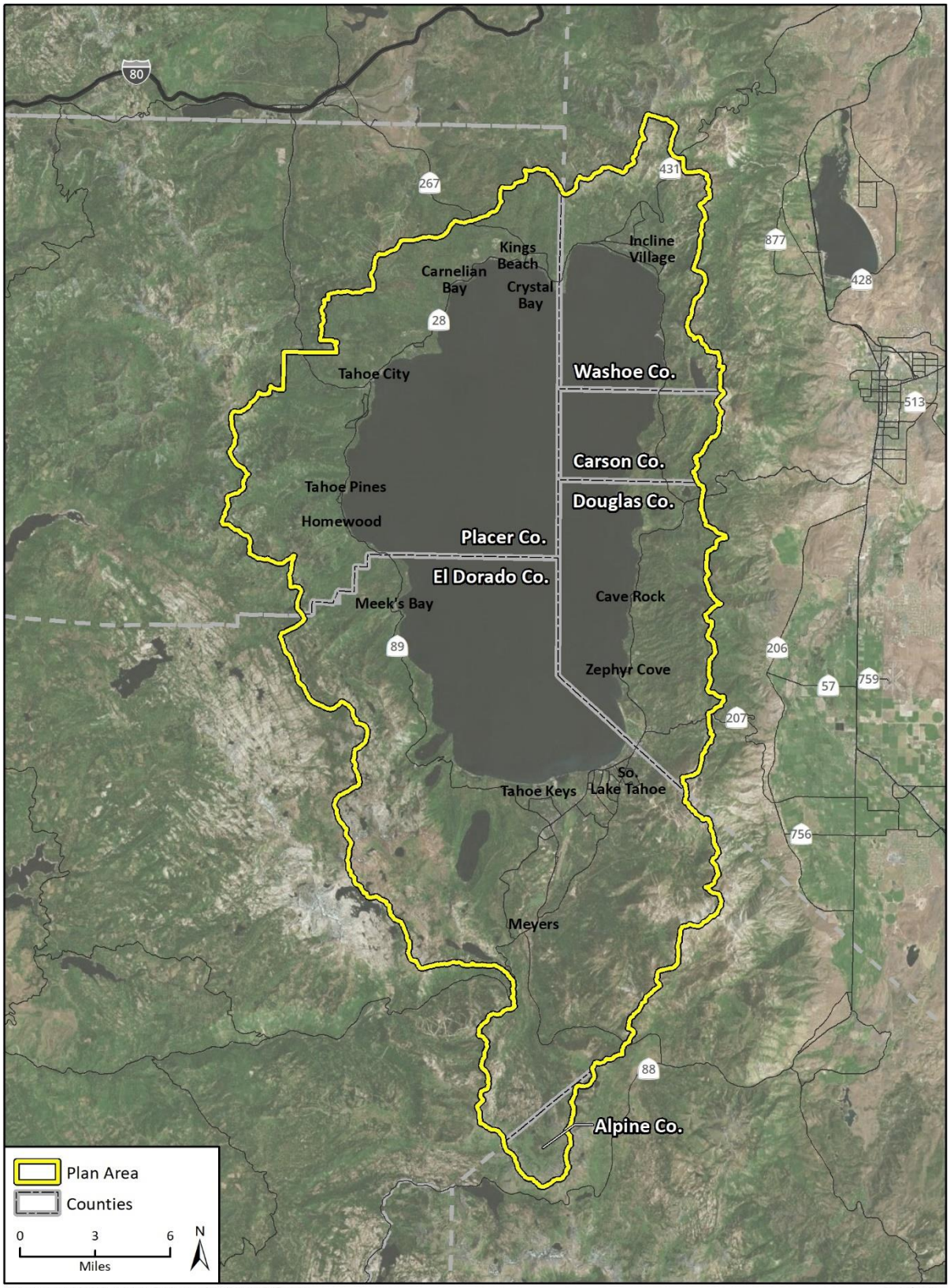

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Fig 1 Plan Area

2 Environmental and Regulatory Setting

2.1 Greenhouse Gas Emissions/Climate Change Background

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term "climate change" is often used interchangeably with the term "global warming," but climate change is preferred because it conveys that other changes are happening in addition to rising temperatures. The baseline against which these changes are measured originates in historical records that identify temperature changes that occurred in the past, such as during previous ice ages. The global climate is changing continuously, as evidenced in the geologic record which indicates repeated episodes of substantial warming and cooling. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming over the past 150 years. The United Nations Intergovernmental Panel on Climate Change (IPCC) expressed a high degree of confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014).

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere, and natural processes, such as oceanic evaporation, largely determine its atmospheric concentrations.

GHGs are emitted by natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are usually by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Human-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (United States Environmental Protection Agency [U.S. EPA] 2020). Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 28, meaning its global warming effect is 28 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2015).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effect of GHGs, the earth's surface would be about 33° Celsius (°C) cooler (World Meteorological Organization 2020). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, are believed to have

elevated the concentration of these gases in the atmosphere beyond the level of concentrations that occur naturally.

Greenhouse Gas Emissions Inventory

Global Emissions Inventory

Worldwide anthropogenic emissions of GHGs were approximately 46,000 million metric tons (MMT or gigatonne) CO_2e in 2010 (IPCC 2014). Carbon dioxide emissions from fossil fuel combustion and industrial processes contributed about 65 percent of total emissions in 2010. Of anthropogenic GHGs, carbon dioxide was the most abundant, accounting for 76 percent of total 2010 emissions. Methane emissions accounted for 16 percent of the 2010 total, while nitrous oxide and fluorinated gases accounted for 6 percent and 2 percent respectively (IPCC 2014).

Federal Emissions Inventory

Total United States (U.S.) GHG emissions were 6,676.6 MMT of CO_2e in 2018. Since 1990, total U.S. emissions have increased by an average annual rate of 0.13 percent for a total increase of 3.7 percent since 1990. Emissions increased by 2.9 percent from 2017 to 2018. The increase from 2017 to 2018 was primarily driven by increased fossil fuel combustion as a result of multiple factors, including increased energy usage from greater heating and cooling needs due to a colder winter and hotter summer in 2018 as compared to 2017. In 2018, the transportation and industrial end-use sectors accounted for 36 percent and 26 percent, respectively, of GHG emissions while, the residential and commercial end-use sectors accounted for 20 percent and 17 percent of GHG emissions, respectively, with electricity emissions distributed among the various sectors (U.S. EPA 2020).

California Emissions Inventory

Based on the California Air Resource Board's (CARB) California Greenhouse Gas Inventory for 2000-2017, California produced 424.1 MMT of CO_2e in 2017. The major source of GHG emissions in California is transportation, contributing 41 percent of the state's total GHG emissions. The industrial sector is the second largest source, contributing 24 percent of the state's GHG emissions, and electric power accounts for approximately 15 percent (CARB 2019a). California emissions are due in part to its large size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. In 2016, the State of California achieved its 2020 GHG emission reduction goals as emissions fell below 431 MMT of CO_2e (CARB 2019a). The annual 2030 statewide target emissions level is 260 MMT of CO_2e (CARB 2017).

Nevada Emissions Inventory

The Nevada Division of Environmental Protection (NDEP) prepares GHG emissions inventory for the State of Nevada pursuant to Nevada Revised Statutes (NRS) 44B.380 and Senate Bill 254 passed in 2019. Based on NDEPS's Greenhouse Gas Inventory and Projections, 1990 to 2039, Nevada produced 38.34 MMT of CO_2e in 2016 (NDEP 2019). The major source of GHG emissions in Nevada is transportation, contributing to 35 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing approximately 32 percent. In 2016 Nevada contributed 0.68 percent of the total gross GHG emissions in the U.S. The annual 2030 statewide target emissions level for Nevada is 45 percent below 2005 emissions or 27.15 MM of CO_2e.

Local Emissions Inventory

The Lake Tahoe Sustainable Communities Program Sustainability Action Plan estimated that total emissions for the Lake Tahoe region were 1,398,554 MT of CO_2e in 2013. Electricity consumption, natural gas consumption, and transportation contribute approximately 75 percent of GHG emissions in the Region. Electricity consumption was the largest source of GHG emissions at 36 percent, followed by on-road transportation at 23 percent, and natural gas consumption at 17 percent. A regional GHG reduction target of 15 percent below the region's baseline by 2020 was recommended for the plan.

Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2015 to 2017 was approximately 1.0°C (1.8°F) higher than the average GMST over the period from 1880 to 1900 (National Oceanic and Atmospheric Administration 2019). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014 and 2018).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snow pack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018). While there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally-specific climate change case studies (State of California 2018). A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Higher temperatures are conducive to air pollution formation and could worsen air quality in the Tahoe Region as they rise. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. As temperatures have increased in recent years, the area burned by wildfires throughout the state has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality would worsen, but if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate

pollution. This would effectively reduce the number of large wildfires, thereby ameliorating the pollution associated with them. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (California Natural Resources Agency 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in the Tahoe Region, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides some of Nevada and California's water supply, as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the fraction of precipitation that falls as snow and result in less snowfall at lower elevations, thereby reducing the total snowpack (State of California 2018). Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from flooding. The rate of increase of global mean sea levels over the 2001-2010 decade, observed by satellites, ocean buoys, and land gauges, was approximately 3.2 millimeters per year, double the twentieth century trend of 1.6 millimeters per year. Global mean sea levels averaged over the last decade were about 0.20 meter higher than those of 1880 (World Meteorological Organization 2013). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea-level rise of 0.25 to 0.94 meter by 2100 (IPCC 2018). A rise in sea levels could erode 31 to 67 percent of California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California’s water supply due to salt water intrusion and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018). Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a nearly $50 billion annual agricultural industry that produces over a third of the country’s vegetables and two-thirds of the country’s fruits and nuts (California Department of Food and Agriculture 2019). The value of agriculture in Nevada was reported at $748 million in 2012 (U.S. Department of Agriculture 2019). Higher CO_2 levels can stimulate plant production and increase

plant water-use efficiency, but if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent. This would increase water demand as hotter conditions lead to the loss of soil moisture; crop-yield could be threatened by water-induced stress and extreme heat waves; and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resulting changes in weather patterns could have ecological effects on the global and local scales. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists project that the annual average maximum daily temperatures in California could rise by 2.4 to 3.2°C in the next 50 years and by 3.1 to 4.9°C in the next century (State of California 2018). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

2.2 Regulatory and Legal Setting

Federal

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the U.S. EPA has the authority to regulate motor-vehicle GHG emissions under the federal Clean Air Act. The U.S. EPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the U.S. EPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 S. Ct. 2427 [2014]), the U.S. Supreme Court held the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a PSD or Title V permit. The Court also held that PSD permits otherwise required based on emissions of other pollutants, may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On April 30, 2020, the U.S. E.PA and the National Highway Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO_2 emissions standards for model years 2021-2026 passenger cars and trucks such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase (National Highway Traffic Safety Administration 2020). To account for the effects of the Part Two Rule, CARB released off-model

adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model (CARB 2020a).

California

CARB is responsible for the coordination and oversight of state and local GHG emissions reduction programs in California. There are numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California's Advanced Clean Cars program (referred to as "Pavley"), requires CARB to develop and adopt regulations to achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allows California to implement more stringent vehicle emission standards than those promulgated by the U.S. EPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, and would provide major reductions in GHG emissions. If fully implemented, new automobiles would emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels by 2025 (CARB 2011). However, as a result of the SAFE Rule discussed above, fuel economy and GHG emission standards for new vehicles will increase by approximately 1.5 percent each year through model year 2026 as compared to the 2012 standards which required an approximately five percent annual increase.

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," AB 32, outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 MMT of CO_2e. CARB approved the Scoping Plan on December 11, 2008 and the Plan included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the State's longer term GHG reduction strategies with other State policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14,

2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 (see below). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of six MT of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the state (CARB 2017).

Senate Bill 97

SB 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and climate change impacts.

Senate Bill 375

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") would receive incentives to streamline CEQA processing. On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. TRPA was assigned targets of an 8 percent reduction in GHG emissions from per capita passenger vehicles by 2020 and a 5 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to 2005 emission levels (CARB 2020b).

Senate Bill 1383

Adopted in September 2016, SB 1383 requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, the former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction goals established by SB 375, SB 32, SB 1383, and SB 100.

California Building Standards Code

CALIFORNIA CODE OF REGULATIONS, TITLE 24 – CALIFORNIA BUILDING CODE

The California Code of Regulations (CCR) Title 24 is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The CBC's energy-efficiency and green building standards are outlined below.

PART 6 – BUILDING ENERGY EFFICIENCY STANDARDS/ENERGY CODE

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

The 2019 Title 24 standards are the applicable building energy efficiency standards for the project because they became effective on January 1, 2020. In general, under the 2019 Standards, nonresidential buildings will be 30 percent more energy-efficient compared to the 2016 Standards (CEC 2018). In addition, per Section 110.10, non-residential buildings must incorporate a solar zone area with a minimum area of 15 percent of the total roof area excluding any skylight area for nonresidential buildings with three habitable stories or fewer (other than healthcare facilities) (see the 2019 Standards for exceptions). Solar zones must be comprised of areas that have no dimension less than five feet and are no less than 80 square feet each for buildings with roof areas less than or

equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. See the 2019 Standards for additional requirements regarding the azimuth, shading, interconnection pathways, and electrical service panels of solar zones.

PART 11 – CALIFORNIA GREEN BUILDING STANDARDS/CALGREEN

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle charging stations in newly constructed attached garages for single-family and duplex dwellings; and
- Installation of electric vehicle charging stations at least three percent of the parking spaces for all new multi-family developments with 17 or more units.

The voluntary standards require:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content for building materials, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms for new non-residential buildings. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

California Integrated Waste Management Act (Assembly Bill 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule

that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities and (2) diversion of 50 percent of all solid waste on and after January 1, 2000. CalRecycle is required to develop strategies, including source reduction.

California Environmental Quality Act

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *CEQA Guidelines* for determining the effects and feasible mitigation of GHG emissions. The adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. To date, a variety of air districts, including the Placer County Air Pollution Control District (APCD), have adopted quantitative significance thresholds for GHGs.

For more information on the Senate and Assembly bills, executive orders, building codes, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov, www.arb.ca.gov/cc/cc.htm, and https://www.dgs.ca.gov/BSC/Codes.

Relevant Case Law

CENTER FOR BIOLOGICAL DIVERSITY V. CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CASE NO. 217763)

The California Supreme Court's decision in the *Center for Biological Diversity v. California Department of Fish and Wildlife* was published on November 30, 2015. This decision evaluated the methodology used to analyze GHG emissions in an Environmental Impact Report prepared for the Newhall Ranch development project that included approximately 20,885 dwelling units with 58,000 residents on 12,000 acres of undeveloped land in Los Angeles County. The Environmental Impact Report used a business-as-usual (BAU) approach to evaluate whether the project would be consistent with the AB 32 Scoping Plan. The Court found there was insufficient evidence in the record of that project to explain how a project that reduces its GHG emissions by the same percentage as the BAU reduction identified for the State to meet its statewide goals supported a conclusion that the project impacts were below a level of significance.

The California Supreme Court suggested regulatory consistency as a pathway to compliance, by stating that a lead agency might assess consistency with the State's GHG reduction goals by evaluating for compliance with regulations designed to reduce GHG emissions. This approach is consistent with CEQA Guidelines Section 15064.4(b), which provides that a determination of an impact is not cumulatively considerable to the extent to which the project complies with regulations or requirements implementing a statewide, regional, or local plan to reduce or mitigate GHG emissions. The Court also found that a lead agency may rely on numerical and efficiency-based thresholds of significance for GHG emissions, if supported by substantial evidence.

GOLDEN DOOR PROPERTIES, LLC V. COUNTY OF SAN DIEGO/SIERRA CLUB, LLC V. COUNTY OF SAN DIEGO (CASE NO. 072406)

The Fourth District Court of Appeal decision in the *Golden Door Properties, LLC v. County of San Diego* case (published on September 28, 2018) evaluated the County of San Diego's 2016 Guidance Document's GHG efficiency metric, which establishes a generally applicable threshold of significance for proposed projects. The Court held that the County of San Diego is barred from using its 2016

Guidance Document's threshold of significance for GHG analysis of 4.9 MT of CO_2e per service person per year. The Court stated that the document violated CEQA because it was not adopted formally by ordinance, rule, resolution, or regulation through a public review process per CEQA Guidelines Section 15064.4(b)(3). The Court also found that the threshold was not supported by substantial evidence that adequately explained how a service population threshold derived from statewide data could constitute an appropriate GHG metric to be used for all projects in unincorporated San Diego County. Nevertheless, lead agencies may make project-specific GHG threshold determinations.

Nevada

On April 10, 2007, Nevada Governor Jim Gibbons signed an executive order that created the Nevada Climate Change Advisory Committee (NCCAC). The executive order directed the NCCAC to develop recommendations for reducing Nevada's GHG emissions. The NCCAC released its final report on May 31, 2008 in which it identified recommendations to reduce GHG emissions in sectors such as agriculture, energy, waste management, commercial and residential building, and transportation.

In 2019, the Nevada state legislature passed SB 254, which requires the State Department of Conservation and Natural Resources to issue an annual report concerning GHG emissions in Nevada. The annual reports also include policies that could inform future policy development initiatives designed to reduce GHG emissions statewide. The inaugural report was released for 2019, with proposed policies including the adoption of California vehicle emissions standards, adopting a goal of achieving 100 percent electricity from renewable sources by 2050, and reducing methane emissions from the waste and wastewater sectors. SB 254 and Executive Order 2019-22, together with the increased Renewable Portfolio Standard approved by the Legislature in 2019, form the foundation of Nevada's efforts to address climate change through reducing GHG emissions from all parts of the economy, while driving innovative technologies and pursuing an inclusive and equitable transition to a sustainable, low-carbon economy.

The state of Nevada and its jurisdictions follow the air quality policies and regulations set forth by the Federal Highway Administration and the U.S. EPA when evaluating the greenhouse gas emissions generated by the construction of road projects (Federal Highway Administration 2013).

Local Regulations

Tahoe Regional Planning Agency

TRPA is a regional planning agency that oversees development in Lake Tahoe. It was created in 1969 by the Bi-State Compact, approved by governors and lawmakers in California and Nevada in 1969 and ratified by the United States Congress. The Bi-State Compact was revised in 1980, giving TRPA authority to adopt environmental quality standards (called thresholds) and to enforce ordinances designed to achieve the thresholds. The TRPA Governing Board adopted the thresholds in 1982. TRPA is a separate legal entity governed by a body of seven voting delegates from California and seven voting delegates from Nevada. There is also a non-voting federal representative to the Governing Board. TRPA prepares the regional land use plan for the Lake Tahoe region, serves as the metropolitan planning organization for the Plan Area, and retains authority over both land use and transportation planning decisions for the Lake Tahoe region.

In 1982, TRPA adopted nine environmental threshold carrying capacities (thresholds), which set environmental standards for the Lake Tahoe region and indirectly define the capacity of the Plan Area to accommodate additional land development. Thresholds define the environmental quality

goals that the Regional Plan is required to achieve for matters including water quality, air quality, soil conservation, vegetation protection, fisheries, wildlife, scenic resources, noise and recreation. TRPA has not specifically identified any Environmental Threshold Carrying Capacities related to GHG emissions or climate change. The Lake Tahoe Regional Plan Goals and Policies document, which is designed to achieve and maintain adopted environmental thresholds, has one policy pertaining to GHG emissions (Policy AQ-1.3) that encourages the reduction of GHG emissions from motor vehicles and motorized machinery in the Plan Area. The TRPA Code of Ordinances includes a provision requiring that a GHG reduction strategy be incorporated into area plans adopted by local jurisdictions (TRPA Code Section 13.5.3.E) to reduce emissions of GHGs from operation and construction.

Linking Tahoe Regional Transportation Plan-2017

TRPA serves as the Metropolitan Planning Organization for El Dorado County and Placer County in California within the Lake Tahoe Air Basin (LTAB) and Washoe and Douglas counties in Nevada. In 2017, TRPA prepared the Linking Tahoe RTP/SCS, which is an update to the 2012 RTP/SCS. The plan seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Plan Area through 2045. Important directions of the plan are to reduce the overall environmental impact of transportation in the Tahoe Region, create walkable, vibrant communities, and provide real alternatives to driving. The RTP establishes a target to reduce GHG emissions. TRPA's current SB 375 target was updated in 2018 to 8 percent reduction of GHGs by 2020 and a 5 percent reduction by 2035, relative to 2005 emissions.

The plan also is an update of the Transportation Element of the TRPA Lake Tahoe Regional Plan. The 2017 RTP update included an SCS, in accordance with California SB 375 (Sustainable Communities and Climate Protection Act). The SCS demonstrates how integrated transportation, land use, and housing strategies will help the Metropolitan Planning Organization Region meet environmental thresholds and greenhouse gas targets for cars and light trucks on the California side of the Basin by 2035. The RTP and SCS are integrated into TRPA's Regional Plan. The 2045 RTP/SCS is an update to the 2017 RTP/SCS.

TRPA Sustainability Action Plan

TRPA adopted a Sustainability Action Plan in December 2013, which provides tools to assist local governments, agencies, businesses, residents, visitors, and community groups with prioritizing and adopting consistent sustainability actions throughout the Region. The Sustainability Action Plan represents an integrated approach to reducing GHG emissions and striving toward zero-impact in all aspects of sustainability. The document includes the revised GHG emissions inventory, reduction targets, and climate change and adaptation strategies; however it is not a CEQA-qualified GHG reduction plan under which GHG impact analysis can be streamlined for new development projects. Local jurisdiction partners at Placer County (adopted) and City of South Lake Tahoe (draft) CEQA-qualified GHG reduction plans for their portions of the Tahoe Basin.

TRPA Best Construction Practices Policy for Construction Emissions

TRPA coordinates implementation of its Best Construction Practices Policy for Construction Emissions through TRPA-approved plans, project-permitting, or projects/programs developed in coordination with local or other governments that require, as a condition of project approval, implementation of feasible measures and best management practices to reduce construction-

generated emissions to the extent feasible TRPA adopted its Best Construction Practices Policy in 2013 pursuant to Mitigation Measure 3.4-2 and Mitigation Measure 3.5-1 of the 2012 RTP/SCS Environmental Impact Report/Environmental Impact Statement (EIR/EIS), and Mitigation Measure 3.4-2 of the Regional Plan Update EIS. Included in these measures are limits on idling time and the use of clean-fuel generators rather than diesel, which help reduce GHG emissions related to the construction of project build alternatives.

Lake Tahoe Sustainable Communities Program

The Lake Tahoe Basin is already experiencing the direct impacts of climate change. These include rapid change to the ecological composition of our natural environment, more severe and frequent hazard events, retreating snowpack, and socio-economic shifts (such as fluctuation of trends in visitation). Climate change directly impacts the ability of TRPA and regional partners to achieve and maintain thresholds and will likely cause major disruptions to the region's economic, social, and ecological systems.

In 2013, a GHG inventory and future projections were completed for the Plan Area. The inventory found that generation of electricity, transportation, and fuel combustion for heating and cooking are the top three emissions sources in the Plan Area and constitute approximately 90 percent of all emissions. The completion of this inventory led to the creation of the Lake Tahoe Sustainable Communities Program (Sustainability Program) in 2014, a multi-sector collaborative funded by the Strategic Growth Council, and the national Sustainability Action Plan (Action Plan).

The Action Plan outlines a comprehensive regional approach to reducing GHG emissions and adapting to climate change. To date, Basin partners have implemented nearly 76 percent of actions identified in the Action Plan. Other components of the Sustainability Program include an Economic Development Strategy and supported implementation of the Regional Plan through creation of the initial version of the Area Plan Framework. In addition to the successful implementation components of the Lake Tahoe Sustainability Program, other notable inputs and changes in relevant climate change policy and information since 2014 include:

- Truckee Basin Study, Bureau of Reclamation (2015) – Report analyzing impacts of climate change on water supply for the Truckee River Basin.
- Water for the Seasons (ongoing) – Study by Desert Research Institute to address impacts identified in Truckee Basin Study.
- California Fourth Climate Change Assessment (2018) – Included more localized analysis of impacts of climate change on regions of California, including the Sierra Nevada.
- Tahoe Basin Vulnerability Assessment (2020) – Completed by the California Tahoe Conservancy, downscaled science from the 4th Assessment to analyze specific climate change impacts to the Tahoe Basin.
- Tahoe Climate Adaptation Action Portfolio (2020) – Ongoing California Tahoe Conservancy project to highlight current adaptation actions in the Tahoe Basin.
- Tahoe Science Advisory Council Science to Action Plan – Ongoing work to assess summer-winter clarity trends and identify actions to address findings.

Placer County Air Pollution Control District

Placer County APCD has adopted CEQA thresholds of significance for evaluating whether the GHG emissions of different types of projects would be a cumulatively considerable contribution to climate change in their *California Environmental Quality Act Thresholds of Significance Justification Report* (Placer County APCD 2016b). Placer County APCD recommends an array of GHG thresholds for determining whether a project's GHG emissions would be cumulatively considerable. Placer County APCD's recommendations are discussed in detail under Section 2.2, *Significance Thresholds*.

South Lake Tahoe General Plan

The Natural and Cultural Resources Element of the South Lake Tahoe General Plan provides city-wide goals and polices aimed at reducing GHG emissions and promoting sustainable development (City of South Lake Tahoe 2011). Relevant goals and policies include incorporating bicycle and pedestrian facilities in city transportation planning and new development projects (Policy NCR-5.1), consideration of traffic-calming measures where needed (Policy NCR-5.5), encouraging interconnected bicycle, pedestrian, and bus transit circulation in development projects (NCR-5.8), supporting appropriately located mixed-use development sites within walking distance of each other (NCR-5.9), and mitigating carbon emissions during project-level CEQA review for individual projects (NCR-5.15). The General Plan also encourages conservation in new and existing development to reduce GHG emissions (Goal NCR-6); this goal is supported by policies that encourage use of "EPA Energy Star" certified appliances for new private development and public facilities (NCR-6.14), and a requirement to prepare a waste diversion plan to address the construction phase for certain projects (NCR6.16).

2.3 Previous Environmental Review

The 2017 RTP/SCS IS/IEC examined the GHG setting and potential GHG impacts resulting from changes in the 2017 RTP/SCS compared to the 2012 RTP/SCS (TRPA 2017). The analysis included calculating construction-generated and operational GHG emissions from 31 new transportation infrastructure projects, and the removal of four projects, as proposed in the 2017 RTP/SCS. This analysis also included estimating vehicle miles traveled (VMT) and future mobile-source emissions in the Plan Area using EMFAC2014, which is an updated version of the EMFAC2011 model that was utilized for the 2012 RTP/SCS.

The analysis in this report for the 2045 RTP/SCS is tiered from the GHG impact analysis contained in the 2017 RTP/SCS IS/IEC, supplemented by project-specific analysis. By tiering from the 2017 RTP/SCS IS/IEC, the analysis in this section relies on the 2017 RTP/SCS IS/IEC for a discussion of general background and setting information for this environmental topic area; overall growth-related issues; issues that were evaluated in sufficient detail in the 2017 RTP/SCS IS/IEC for which there is no significant new information or change in circumstances that would require further analysis; and an assessment of cumulative impacts. The analysis of GHG impacts conforms to the methodologies recommended in the Appendix G of the *CEQA Guidelines* and TRPA's Environmental Threshold Carrying Capacities (threshold standards). These guidelines include thresholds for GHG emissions associated with both construction and operation of proposed projects.

3 Impact Analysis

3.1 Methodology

For this analysis, the baseline year is updated to 2018 from the 2014 baseline year used in the 2017 RTP/SCS IS/IEC. The 2018 baseline includes new VMT estimates that characterize more current conditions and use TRPA's recentlyupdated Travel Demand Model. In addition, the planning horizon for the 2045 RTP/SCS has been updated to 2045, which is five years longer than the previous projection year of 2040 under the 2017 RTP/SCS.

Mobile Source Emissions Modeling

GHG emissions from on-road mobile sources were calculated using emission factors from CARB's EMFAC2017 model, off-model adjustment factors to account for the effects of the SAFE Vehicles Rule, and regional vehicle miles travelled (VMT) from TRPA's Travel Demand Model, shown in Table 1. Consistent with the methodology used in the 2012 RTP/SCS EIR/EIS and 2017 IS/IEC,TRPA assumes that the vehicle fleet information contained in the EMFAC2017 model for the Lake Tahoe subareas of Placer and El Dorado counties would be representative of vehicles throughout the LTAB because the factors that determine vehicle choice (e.g., lifestyle, mobility, environmental, and local economic factors) do not differ dramatically throughout the region. Therefore, for the purposes of modeling mobile source criteria pollutant emissions, VMT in Nevada was distributed proportionally between the Lake Tahoe subareas of Placer and El Dorado counties.

Table 1 2045 RTP/SCS Annual VMT Data

Year	California	Nevada
2005	333,255,698	228,932,039
2018	289,919,549	199,044,756
2035	293,350,382	193,623,683
2045	300,106,817	194,542,687

VMT = vehicle miles traveled
Source: TRPA 2020a

EMFAC2017 emission factors are established by CARB and incorporate mobility assumptions (e.g., vehicle fleets, speed, delay times, average trip lengths, time of day and total travel time) provided by TRPA's Travel Demand Model and socioeconomic growth projections based on data from the UCLA Anderson Forecast, California Department of Finance, California Board of Equalization, California Energy Commission, U.S. Department of Energy Energy Information Administration, and U.S. Bureau of Economic Analysis. Following adoption of the 2017 IS/IEC, CARB released EMFAC2017, replacing EMFAC2014, the model that was used in the 2017 RTP/SCS IS/IEC to estimate mobile source emissions in California and Nevada. EMFAC2017 accounts for updated fleet characterization, vehicle activity profile, and socio-econometric forecasting data; new vehicle testing data for emission rates; updated assumptions on the Advanced Clean Cars regulation; and implementation of new regulations and policies including Phase 2 GHG standards for heavy-duty

vehicles and the Road Repair and Accountability Act of 2017 (Senate Bill 1). To account for the effects of the SAFE Vehicle Rule on mobile source GHG emissions, off-model adjustment factors published by CARB (2020) were applied to CO_2 emissions from gasoline-powered passenger cars (LDA) and light duty-trucks (LDT1, LDT2, and MDV).[1] Projected vehicle emissions on the TRPA transportation network for the year 2045 under the 2045 RTP/SCS were compared with emissions estimated for baseline year 2018.

Table 2 provides a comparison of weighted average running exhaust emissions factors for CO_2 for the TRPA region using EMFAC2014 (utilized to model emissions in the 2017 RTP/SCS IS/IEC) and EMFAC2017 (utilized in this analysis). As shown in Table 2, the weighted average running exhaust emission factor in EMFAC2017 for CO_2 is 11 percent lower than that of EMFAC2014.

Table 2 Weighted Average Emissions Factors for Vehicle Travel in the TRPA Jurisdiction in 2045

On-Road Mobile Source Emissions Model	CO_2 Emissions Rate (grams/mile)
EMFAC2014	322.07
EMFAC2017	286.02
Percent Change	(11%)

CO_2 = carbon dioxide

Note: Weighted average emissions rates are based on RUNEX emissions for each pollutant, including off-model adjustments for the effects of the SAFE Rule per CARB guidance (CARB 2020a).

See Appendix A for calculations.

The 2045 RTP/SCS proposes one new water taxi project (the North Shore Water Taxi Project Phase 2035), which would replicate the existing South Shore water taxi service for destinations on the North Shore. Emissions from the proposed Northshore Water Taxi Project Phase 2035 were estimated using SMAQMD's Harbor Craft, Dredge and Barge Emission Factor Calculator, which is based on the California Air Resources Board's Harbor Craft Database. To estimate watercraft emissions, project information, vessel type, and engine type were input into the Emission Factor Calculator. Based on existing South Shore water taxi service, it was assumed the North Shore water taxi would operate for eight hours a day, seven days a week between June 1 and September 30 each year. Emissions from the North Shore Water Taxi Project Phase 2035 were added to the waterborne transit emissions estimated in the 2012 RTP/SCS EIR/EIS to provide a conservative estimate of impacts associated with the 2045 RTP/SCS.

SB 375 Analysis

To determine whether the 2045 RTP/SCS would allow TRPA to meet its SB 375 reduction targets, per capita CO_2 emissions were calculated by multiplying the emission factors by the VMT from passenger vehicles and dividing by the region's population. For this analysis, emission factors were generated using the SB 375 template in EMFAC, which deactivates Advanced Clean Cars (Pavley) and Low Carbon Fuel Standards. For the purposes of this analysis, the year 2005 is used as the baseline year per the requirements of SB 375. In accordance with CARB guidance, the same methodology and version of EMFAC (i.e., EMFAC2014) was utilized for SB 375 modeling for the 2045 RTP/SCS to

[1] The definition of light-duty trucks in the SAFE Vehicles Rule correlates to the definitions of LDT1, LDT2, and MDV by CARB in the EMFAC2017 model (CARB 2019b and 2020a).

provide a consistent comparison of per capita CO_2 emissions with the SB 375 targets (CARB 2019c, Appendix D). Furthermore, per CARB guidance, off-model adjustment factors related to the SAFE Rule were not applied in this analysis because EMFAC2014 does not account for the impact of light duty ZEV and GHG emissions standards when used in SB 375 mode (CARB 2020a). In addition to estimating per capita passenger vehicle emissions for years 2035 and 2045, emissions were recalculated for baseline year 2005 to account for updates made to the TRPA Travel Demand Model in 2020, which included calibrating and validating the model against traffic counts that represent a typical early/late summer weekday. The purpose of the updates were to create consistency between observed traffic counts, the original model design, the model inputs, and the subsequent model outputs. The result of these adjustments is a model that better represents on-the-ground travel conditions. In comparison, the former travel demand model originally used to calculate the SB 375 baseline for year 2005 was validated with data that more closely represented a busy summer weekend. To provide an accurate comparison between 2035 and 2045 VMT estimates and baseline year 2005 estimates, TRPA staff adjusted a portion of the 2005 inputs and re-ran the 2005 scenario in the updated Travel Demand Model. In particular, staff adjusted the visitor-related inputs by factoring down the visitor occupancy rates for year 2005 used in the original Travel Demand Model to align with the year 2018 visitor occupancy rates based on lodging occupancy data.[2] All other inputs (e.g., employment, residential units) from 2005 were retained. The end result of utilizing the updated Travel Demand Model and visitor occupancy rate adjustment was to decrease the daily VMT per capita baseline from approximately 25.2 VMT to approximately 21.59 VMT (TRPA 2020c and 2020d). In consultation with TRPA, CARB expressed support for this approach to the SB 375 analysis for the 2045 RTP/SCS (CARB 2020c).

3.2 Significance Thresholds

The significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional or state GHG reduction plan (such as a Climate Action Plan). The following CEQA Appendix G criteria were identified for determining whether a project's impacts would have a significant impact associated with GHG emissions:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The following criteria were identified in the TRPA Initial Environmental Checklist for determining whether a project's impacts would have a significant impact associated with GHG emissions:

1. Alteration of climate, air movement, moisture, or temperature? (TRPA 2d)

Placer County APCD Revised Thresholds of Significance

On October 13, 2016, Placer County APCD adopted revised CEQA thresholds of significance for evaluating whether the GHG emissions of different types of projects would be a cumulatively considerable contribution to climate change (Placer County APCD 2016). These revised thresholds

[2] Based on lodging occupancy data over time in the Tahoe region, the number of annual lodging rooms rented in 2005 and 2018 was roughly equivalent at around 1.5 million rooms. Therefore, TRPA staff concluded that overall visitor occupancy rates in 2005 were comparable to those in 2018 and that the difference in occupancy in the original 2005 model estimate and the 2018 baseline year was a result of weekday versus weekend representation, rather than a difference in actual levels of visitation.

are supported by Placer County APCD's *California Environmental Quality Act Thresholds of Significance Justification Report* released in September 2016 (Placer County APCD 2016). Placer County APCD's proposed GHG thresholds reflect the CEQA projects reviewed by Placer County APCD over the last 13 years (2003 to 2015) and the CEQA significance thresholds adopted by other air districts in the Sacramento Area (Placer County APCD 2016). Placer County APCD recommends the following hierarchy of GHG thresholds for determining whether a project's GHG emissions would be cumulatively considerable. No thresholds of significance for evaluating GHG emissions have been adopted by the El Dorado County AQMD or the State of Nevada; therefore, for the 2045 RTP/SCS, the net change in GHG emissions from existing conditions in the Plan Area was evaluated in light of the following Placer County APCD thresholds, consistent with the analysis in the 2017 RTP/SCS IS/IEC:

1. To start, the operational emissions of a land use project should be compared to de minimis level of 1,100 MT of CO_2e per year. If the de minimis level if not exceeded, the project's GHG emissions would be less than cumulatively considerable. No further analysis is necessary.
2. If project emissions exceed the de minimis level but emissions are less than the bright-line threshold of 10,000 MT of CO_2e per year, the operational emissions of a land use project should be compared to the thresholds contained in the efficiency matrix, which provides four efficiency thresholds for use depending on whether the project is rural or urban and residential or non-residential (e.g., 4.5 MT of CO_2e per year per capita and 26.5 MT of CO_2e per year per 1,000 square feet for residential and non-residential land uses in urban areas, respectively) (Placer County APCD 2016). If the applicable efficiency threshold is not exceeded, the project's GHG emissions would be less than cumulatively considerable.
3. If a land use project's construction emissions or a stationary source project's construction and operational emissions exceed the bright-line threshold of 10,000 MT of CO_2e per year, the project's GHG emissions would be cumulatively considerable regardless of the project's GHG efficiency.

3.3 Project Impacts and Mitigation Measures

This section describes generalized GHG impacts associated with the 2045 RTP/SCS. Due to the programmatic nature of the 2045 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible. In general, however, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the 2045 RTP/SCS could result in GHG impacts as described in the following sections.

CEQA

Threshold 1:	Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1 IMPLEMENTATION OF THE TRANSPORTATION IMPROVEMENT PROJECTS AND LAND USE SCENARIO ENVISIONED BY THE 2045 RTP/SCS WOULD GENERATE TEMPORARY SHORT-TERM GHG EMISSIONS THAT MAY HAVE A SIGNIFICANT EFFECT. HOWEVER, IMPLEMENTATION OF MITIGATION MEASURE 3.5-1 FROM THE 2012 RTP/SCS EIR/EIS, WHICH IS INCORPORATED IN TRPA'S BEST CONSTRUCTION PRACTICES POLICY,

WOULD REDUCE IMPACTS TO A LESS THAN SIGNIFICANT LEVEL, SIMILAR TO THE CONCLUSIONS OF THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC.

The types of short-term construction-generated emission activity would generally be the same under the 2045 RTP/SCS as the 2017 RTP/SCS. The differences between the 2017 RTP and the 2045 RTP consist of adding 22 new minor projects[3] (nine Active Transportation, three Corridor + Communities, eight Operations and Maintenance, and two Technology), modifying several projects that remain on the list, and removing projects that have been completed since 2017. The 22 new projects are similar in type to those included in the 2017 RTP/SCS and include construction of bikeways, trails, sidewalks; installation of complete streets improvements and variable speed signs; improvements to parking management and wayfinding; and operation and maintenance activities for existing roadways and transit, bicycle, and pedestrian facilities. The 2045 RTP would also include the remaining 92 yet-to-be-completed projects as under the 2017 RTP/SCS, some of which are currently being implemented.

The 2045 RTP/SCS would result in construction related GHG emissions associated with several transportation infrastructure projects. One of the two largest infrastructure construction projects in the 2012 RTP, State Route 89/Fanny Bridge Community Revitalization Project, has been approved and construction has been initiated, with two of three traffic circles completed. As discussed in the 2017 RTP/SCS IS/IEC, the project-level analysis of the SR 89/Fanny Bridge concluded that construction-related GHG emissions would be less than significant (see Impact 4.6-1 of the SR 89/Fanny Bridge EIR/EIS/EA [TRPA 2015]). Projects listed in the 2045 RTP/SCS would be constructed at an equivalent or smaller scale than the SR 89/Fanny Bridge Community Revitalization Project, based on current project descriptions and a comparison of anticipated construction costs and project type (TRPA 2020e). As discussed in the 2017 RTP/SCS IS/IEC, although detailed construction information for transportation projects in the RTP is not known at this time, use of heavy-duty equipment, construction worker commute trips, material deliveries, and vendor trips would be involved. These activities would result in GHG emissions that would be finite in duration, but when all the construction projects are considered together over the implementation period of the RTP, construction-related emissions of GHGs could be substantial without environmentally protective policies and/or mitigation measures. However, implementation of Mitigation Measure 3.5-1 from the 2012 EIR/EIS has occurred via the adoption of TRPA's Best Construction Practices Policy, which provides environmental protections. As noted in Section 2.2, *Regulatory and Legal Setting*, projects would have to demonstrate compliance with TRPA's Best Construction Practices Policy as a condition of approval. The policy would require reductions in construction generated GHGs.

The land use scenario envisioned by the 2045 RTP/SCS is similar to that contained in the 2017 RTP/SCS. The regional forecast includes minor changes in development, population demographics, and visitation. This land use scenario, consistent with the 2017 RTP/SCS, concentrates the forecasted growth in population and employment in already urbanized areas. New development under the 2045 RTP/SCS is anticipated to increase through years 2035 and 2045, in keeping with State-mandated housing (TRPA 2020b). These increases would accommodate slight increases to full-time residential population and a greater increase in day and overnight visitors to the Plan Area, which will result in continued and increased use of overnight lodging facilities. Although the 2045 RTP/SCS does not facilitate or propose new residential, commercial, or visitor-serving development and the transportation projects would introduce minimal land use changes, the growth anticipated in this update is less than that analyzed in the 2012 RTP/SCS EIR/EIS. The 2012 analysis anticipated a 2035 population of 60,365 residents in the Lake Tahoe region; however, the current 2020 regional

[3] Net new count does not include unconstrained projects in the 2045 RTP/SCS.

forecast anticipates a 2045 population of 58,041 residents (TRPA 2020b). Therefore, current anticipated population growth is thus less than previously anticipated growth under the 2012 RTP/SCS EIR/EIS. Regional population increase is therefore expected to be consistent with that estimated during previous planning processes in 2012 and 2017. Overall, substantial and adverse impacts from GHG emissions would remain less than significant with implementation of mitigation measures from the 2012 RTP/SCS EIR/EIS and would be similar to what would occur under the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur.

Mitigation Measures

Mitigation Measure 3.5-1 from the 2012 RTP/SCS EIR/EIS (listed below) would continue to apply to the 2045 RTP/SCS. The provisions of this mitigation measure have been adopted as part of TRPA's Best Construction Practices Policy, and all construction projects facilitated by the 2045 RTP/SCS would be required to comply with its provisions.

3.5-1 Minimize Construction-Related GHG Emissions

For all the alternatives, GHG emissions from construction will be reduced to the maximum extent feasible. During construction of transportation infrastructure projects, TRPA will require the following mitigation measures to reduce GHG emissions. Other measures that are as effective may be substituted depending on the emissions control technology available at the time of project construction.

- Limit equipment idling time to a maximum of five (5) minutes.
- Recycle or reuse construction waste and demolition material to the maximum extent feasible.
- Use electrified or alternative-fueled construction equipment to the maximum extent feasible. Use local and sustainable building materials to the extent possible.

TRPA is considering the implementation of a Best Construction Practices Policy to maintain a range of potential construction period environmental impacts at less-than-significant levels, including GHG emission impacts. When the Best Construction Practices Policy is completed and adopted, the applicable requirements listed in the adopted policy may be implemented in lieu of the actions listed above.[4]

Impact GHG-2 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD NOT RESULT IN A SUBSTANTIAL INCREASE IN TOTAL GHG EMISSIONS FROM MOBILE SOURCES COMPARED TO 2018 BASELINE CONDITIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC.

The 2012 RTP/SCS EIR/EIS found that the 2012 RTP/SCS (Alternative 3 analyzed in the 2012 RTP/SCS EIR/EIS) would result in a substantial long-term increase in GHG emissions and therefore concluded that impacts would be significant and unavoidable. The 2017 RTP/SCS IS/IEC updated the mobile source emissions modeling of the 2012 RTP/SCS EIR/EIS with updated VMT estimates and EMFAC2014 emission factors and found that mobile source GHG emissions would be substantially reduced in the long-term, thereby concluding that impacts of the 2017 RTP/SCS would be less than significant.

[4] This language is included in the original text of Mitigation Measure 3.5-1 of the 2012 RTP/SCS EIR/EIS. However, at this time, TRPA has adopted its Best Construction Practices Policy, which incorporates the requirements of this mitigation measure.

In the 2017 RTP/SCS IS/IEC, operational GHG emissions were evaluated for the entire region using EMFAC2014. Per CARB recommendations, the revised region-wide mobile-source emissions modeling was conducted using EMFAC2017 (including off-model adjustments to account for the SAFE Vehicles Rule) along with updated VMT data provided by TRPA for 2018 baseline year and 2045 build-out year for the 2045 RTP/SCS. VMT in the Lake Tahoe region would increase by approximately 15,576 VMT per day by 2045 compared to 2018 conditions under the 2045 RTP/SCS.

Updated GHG emissions modeling results are summarized in Table 3. No thresholds of significance for evaluating GHG emissions have been adopted by the El Dorado County AQMD or the State of Nevada; therefore, the net change in GHG emissions from existing conditions in the Plan Area is compared to the Placer County APCD de minimis level of 1,100 MT of CO_2e per year, consistent with the air quality analysis in the 2017 RTP/SCS IS/IEC.

As shown in Table 3, GHG emissions modeling for the 2045 RTP/SCS indicates a reduction of approximately 77,995 MT of CO_2e as compared to the 2018 baseline. The estimated reduction in mobile source emissions is primarily due to stricter fuel efficiency and vehicle emissions standards such as the Corporate Average Fuel Economy standards that will phase in over the planning period as reflected in EMFAC2017 emission factors. Because emissions would decrease as compared to 2018 baseline conditions, emissions associated with the 2045 RTP/SCS would not exceed Placer County APCD's recommended de minimis level of 1,100 MT of CO_2e per year. Therefore, operational GHG emissions associated with the 2045 RTP/SCS would be less than significant and would not be cumulatively considerable, similar to those identified in the 2017 RTP/SCS IS/IEC and less than those identified in the 2012 RTP/SCS EIR/EIS. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Table 3 2045 RTP/SCS Net Change in Daily Basinwide Operational Emissions (2018-2045)

Source	Emissions (MT of CO_2e/year)
On-road Mobile Sources[1]	(81,394)
Waterborne Transit[2] and Water Taxi Service[3]	3,399.1
Total Net Change (2018-2045)	**(77,994.9)**
Placer County APCD De Minimis Level	1,100
Threshold Exceeded?	No

( ) denotes a negative number.

MT = metric tons; CO_2e = carbon dioxide equivalents; APCD = Air Pollution Control District

[1] Emission modeling completed using EMFAC 2017 and CARB's off-model adjustment factors to account for SAFE Vehicles Rule implementation.

[2] Waterborne transit emissions were sourced from the 2012 RTP/SCS EIR/EIS.

[3] Emission modeling for the North Shore Water Taxi Project Phase 2035 was completed using Harbor Craft, Dredge and Barge Emission Factor Calculator.

See Appendix B for EMFAC results and Appendix C for Harbor Craft, Dredge and Barge Emission Factor Calculator results.

Mitigation Measures

None required.

Threshold 2:	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-3 IMPLEMENTATION OF THE 2045 RTP/SCS WOULD BE CONSISTENT WITH SB 375, THE 2017 SCOPING PLAN, AND SB 32. IMPACTS WOULD BE LESS THAN SIGNIFICANT, SIMILAR TO THE CONCLUSIONS OF THE 2012 RTP/SCS EIR/EIS AND 2017 RTP/SCS IS/IEC.

Construction-Generated Greenhouse Gas Emissions

As discussed under Impact GHG-1, the types and amount of GHG-generating construction activity under the 2045 RTP/SCS would be mitigated to less-than-significant conditions under the implementation of TRPA's Best Construction Practices Policy and Mitigation Measure 3.5-1 from the 2012 EIR/EIS. The effectiveness of TRPA's Best Construction Practices Policy is demonstrated in the environmental analysis of the SR 89/Fanny Bridge Community Revitalization Project, one of the largest projects under the 2012 RTP/SCS, which concluded that construction-related GHG emissions would be less than significant (see Impact 4.6-1 of the 2012 RTP/SCS EIR/EIS; TRPA 2015). Thus, construction-related emissions of projects under the 2045 RTP/SCS, which are similar in scope to projects in the 2012 RTP/SCS and 2017 RTP/SCS, would not result in a substantial contribution to global climate change and would not conflict with the 2017 Scoping Plan and the GHG reduction target specified SB 32. Thus, the 2045 RTP/SCS would not result in emissions that conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Operational Greenhouse Gas Emissions

The RTP/SCS's consistency with SB 375 targets and State goals for the California portion of the Lake Tahoe region were evaluated in Section 3.5 of the 2012 RTP/SCS EIR/EIS and Section 3.4.3 of the 2017 RTP/SCS IS/IEC. The 2012 RTP/SCS EIR/EIS found that the 2012 RTP/SCS (Alternative 3 analyzed in the 2012 RTP/SCS EIR/EIS) would be consistent with SB 375 requirements and California GHG reduction goals, and the 2017 RTP/SCS IS/IEC found that the RTP/SCS would also be SB 375 requirements and California GHG reduction goals.

As discussed in Section 1.2, *Regulatory Setting*, CARB assigned updated targets to TRPA of an 8 percent reduction in GHG emissions from per capita passenger vehicles by 2020 and a 5 percent reduction in GHG emissions from per capita passenger vehicles by 2035, relative to a 2005 baseline (CARB 2020b). The 2017 RTP/SCS IS/IEC determined that the region would reduce per capita GHG emissions from passenger vehicles by 8.8 percent by 2020 and 5.0 percent by 2035. In November 2018, CARB released an executive order formally accepting TRPA's determination that the 2017 RTP/SCS would meet the region's GHG emission reduction targets (CARB 2018a).

VMT for the California portion of the Lake Tahoe region under the 2045 RTP/SCS were obtained from the TRPA travel demand model (TRPA 2020a). As discussed in Section 2.1, *Methodology*, per capita GHG emissions associated with passenger vehicles for baseline year 2005 were re-calculated for the purposes of this analysis using the updated TRPA Travel Demand Model, which was also used to calculate VMT forecasts for years 2035 and 2045. In consultation with TRPA, CARB expressed support for this approach to the SB 375 analysis for the 2045 RTP/SCS (CARB 2020c).

Mobile-source emissions associated with VMT from automobiles, light-duty trucks were estimated using the SB 375 Scenario Analysis tool in EMFAC2014 to provide a consistent comparison with the SB 375 targets per CARB's guidance (CARB 2019c, Appendix D). Results of mobile-source GHG

emissions modeling from automobiles and light-duty trucks are summarized below in Table 4. As shown therein, the 2045 RTP/SCS would result in an approximately 12 percent reduction in per capita CO_2 emissions from passenger vehicles by 2035, which would achieve the mandated five percent reduction under SB 375. Because the SB 375 targets are consistent with the objectives of SB 32, the 2045 RTP/SCS is therefore consistent with SB 32 (CARB 2018b).

Table 4 Per Capita Carbon Dioxide Emission Comparison: Passenger Vehicles

	2005 Baseline (per SB 375)	2035	2045
Annual Average Daily Total VMT per Capita[1]	21.59	19.94	19.68
Passenger Vehicle GHG Emissions (tons/day)	388.8	345.5	352.9
Population[2]	41,340	41,951	43,468
Per Capita Passenger Vehicle GHG Emissions (pounds/person/day)	18.81	16.47	16.24
Percent Change from in Per Capita GHG Emissions from 2005		-12.4%	-13.7%
SB 375 Target		-5%	n/a[3]
SB 375 Target Met?		Yes	n/a[3]

[1] Source: TRPA 2020a

[2] Source: TRPA 2020b

[3] SB 375 targets have not been adopted for post-2035 years.

See Appendix D for SB 375 calculations.

The 2045 RTP/SCS would implement a suite of transportation improvement projects and facilitate a land use scenario that is consistent with the transportation sustainability goals of the 2017 Scoping Plan. The land use scenario envisioned by the 2045 RTP/SCS concentrates the forecasted growth in population and employment in already urbanized areas in an effort to reduce VMT. Corridors and Communities and Active Transportation projects would implement complete street design policies that prioritize transit, biking, and walking along State Route 89, Sierra Boulevard, Meyers Corridor, U.S. Highway 50, and Kahle Drive as well as at select locations in Tahoe City and the Nevada portion of the region. In addition to the Corridors and Communities projects, Active Transportation projects would increase the number, safety, and connectivity, and attractiveness of biking and walking facilities by adding sidewalks, trails, bike lanes, crosswalks, intersection improvements, pedestrian bridges, and signage throughout the Lake Tahoe region. Furthermore, the 2045 RTP/SCS includes Transit projects designed to maintain, enhance, and expand transit service offered by the two public transit agencies, the Tahoe Transportation District and Tahoe Area Regional Transit and private operators of Transit for the Tahoe Area as well as expand waterborne transit service via water taxis. In conjunction with the Corridors and Communities and Active Transportation projects, the Transit projects would increase the availability of low carbon mobility options in the region. The 2045 RTP/SCS also includes a project to fund additional battery electric buses at the Lake Tahoe Community College transfer terminal and to purchase transit buses for the Tahoe Transportation District that may be battery electric, thereby contributing to the 2017 Scoping Plan's goals of increasing the penetration of zero emission vehicles in non-light-duty sectors and electrifying the transportation sector.

The 2012 RTP/SCS EIR/EIS determined that the 2012 RTP/SCS (Alternative 3) would result in a net increase in GHG emissions of approximately 36,778 MT of CO_2e per year, and the 2017 RTP/SCS IS/IEC found that the 2017 RTP/SCS would result in a net decrease in GHG emissions of approximately 100,452 MT of CO_2e per year. Although the 2045 RTP/SCS would result in a smaller net decrease in GHG emissions (approximately 77,995 MT of CO_2e per year as show in Table 3 under Impact GHG-2) than the 2017 RTP/SCS, emissions would remain substantially lower than those analyzed in the 2012 RTP/SCS EIR/EIS and would still result in a net decrease in GHG emissions compared to baseline conditions. Therefore, the 2045 RTP/SCS would be consistent with the goals of the 2017 Scoping Plan and SB 32 as it would decrease GHG emissions compared to existing conditions. Impacts would be less than significant, consistent with those identified in the 2012 RTP/SCS EIR/EIS and the 2017 RTP/SCS IS/IEC. No new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

TRPA

Threshold 2d: Result in a significant alteration in climate, air movement, moisture, or temperature?

Impact GHG-4 IMPLEMENTATION OF PROPOSED TRANSPORTATION IMPROVEMENTS AND LAND USE SCENARIO ENVISIONED IN THE 2045 RTP/SCS WOULD NOT RESULT IN AN ALTERATION OF CLIMATE AIR MOVEMENT, MOISTURE, OR TEMPERATURE. IMPACTS WOULD NOT BE SIGNIFICANT, SIMILAR TO THOSE IDENTIFIED IN THE 2017 RTP/SCS IS/IEC.[5]

Similar to the conclusions of the 2017 RTP/SCS IS/IEC, the 2045 RTP program of projects are not of sufficient size to alter the climate of the local project area or the Lake Tahoe Region. Please see the discussion under CEQA Impacts GHG-1 and GHG-2 for an analysis of GHG emissions. Because projects included in the 2045 RTP/SCS would be similar in nature, scale and location as under the 2012 and 2017 RTP/SCS, no new significant impacts or substantially more severe impacts would occur beyond what was previously analyzed in the 2012 RTP/SCS EIR/EIS and 2017 RTP/SCS IS/IEC.

Mitigation Measures

None required.

Cumulative Analysis

The geographic scope for related projects considered in the cumulative impact analysis for GHG emissions is global because impacts of climate change are felt on a global scale regardless of the location of GHG emission sources. Therefore, greenhouse gases and climate change are, by definition, cumulative impacts. As discussed in Section 2.1, *Greenhouse Gas Emissions/Climate Change Background*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether the contribution of the 2045 RTP/SCS

[5] The TRPA *Initial Environmental Checklist* was adopted after certification of the 2012 RTP/SCS EIR/EIS; therefore, impacts were not evaluated in relation to TRPA thresholds in the 2012 RTP/SCS EIR/EIS.

towards the impact is cumulatively considerable. Refer to Impact GHG-1 through Impact GHG-4 for a detailed discussion of the impacts of the 2045 RTP/SCS related to climate change and GHG emissions. As discussed therein, with implementation of Mitigation Measure 3.5-1 from the 2012 RTP/SCS EIR/EIS, impacts of the 2045 RTP/SCS related to climate change and GHG emissions would be less than significant. Therefore, with mitigation, the contribution of the 2045 RTP/SCS to the cumulative impact of GHG emissions would not be cumulatively considerable.

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Appendix A

Comparison of EMFAC2014 and EMFAC2017 Weighted Average Emissions Factors

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: MPO
Region: TMPO
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Weighted Emissions Rates (grams/mile)	
CO_2	322.07

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	CO2_RUNEX	Adjusted for the SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate
TMPO	2045	All Other Buses	Aggregated	Aggregated	DSL	0.663159061	2.737063	0	0.003752236	0.004367228	1.60E-03	2.07E-06	3.30E-09
TMPO	2045	LDA	Aggregated	Aggregated	GAS	15749.9151	656358.5	98793.96	142.6491585	166.0293555	2.53E-04	4.96E-01	1.25E-04
TMPO	2045	LDA	Aggregated	Aggregated	DSL	218.6280997	9150.821	1373.493	1.945039307	2.263831249	2.47E-04	6.91E-03	1.71E-06
TMPO	2045	LDA	Aggregated	Aggregated	ELEC	2831.271644	120929.5	17902.01	0	0	0.00E+00	9.14E-02	0.00E+00
TMPO	2045	LDT1	Aggregated	Aggregated	GAS	963.5311376	39651.69	5977.029	9.171001043	10.67412811	2.69E-04	3.00E-02	8.06E-06
TMPO	2045	LDT1	Aggregated	Aggregated	DSL	0.751382287	23.38761	4.183592	0.005600326	0.00651822	2.79E-04	1.77E-05	4.92E-09
TMPO	2045	LDT1	Aggregated	Aggregated	ELEC	0.421003079	17.77233	2.638638	0	0	0.00E+00	1.34E-05	0.00E+00
TMPO	2045	LDT2	Aggregated	Aggregated	GAS	6607.003361	264068.6	40936.49	71.50855747	83.22881004	3.15E-04	1.99E-01	6.29E-05
TMPO	2045	LDT2	Aggregated	Aggregated	DSL	14.45485161	581.9393	89.8738	0.153819131	0.179030087	3.08E-04	4.40E-04	1.35E-07
TMPO	2045	LHD1	Aggregated	Aggregated	GAS	152.0232228	5066.803	2264.92	4.422071172	5.146848637	1.02E-03	3.83E-03	3.89E-06
TMPO	2045	LHD1	Aggregated	Aggregated	DSL	205.1188749	7535.973	2580.137	4.317594927	5.025248735	6.67E-04	5.69E-03	3.80E-06
TMPO	2045	LHD2	Aggregated	Aggregated	GAS	32.28310341	1423.602	480.9701	1.373724592	1.598878052	1.12E-03	1.08E-03	1.21E-06
TMPO	2045	LHD2	Aggregated	Aggregated	DSL	80.35620787	3527.715	1010.78	2.230567939	2.596158024	7.36E-04	2.66E-03	1.96E-06
TMPO	2045	MCY	Aggregated	Aggregated	GAS	1014.358162	6978.523	2028.513	1.410768766	1.641993766	2.35E-04	5.27E-03	1.24E-06
TMPO	2045	MDV	Aggregated	Aggregated	GAS	3880.560539	121677.4	22847.26	43.48942544	50.61734226	4.16E-04	9.19E-02	3.82E-05
TMPO	2045	MDV	Aggregated	Aggregated	DSL	99.30892494	3434.991	609.6928	1.176731054	1.369597273	3.99E-04	2.59E-03	1.03E-06
TMPO	2045	MH	Aggregated	Aggregated	GAS	47.416461	491.0965	4.743543	0.658573552	0.766513757	1.56E-03	3.71E-04	5.79E-07
TMPO	2045	MH	Aggregated	Aggregated	DSL	14.54392204	145.1626	1.454392	0.162219632	0.188807429	1.30E-03	1.10E-04	1.43E-07
TMPO	2045	Motor Coach	Aggregated	Aggregated	DSL	16.6412908	2137.865	0	3.784996515	4.405357444	2.06E-03	1.61E-03	3.33E-06
TMPO	2045	OBUS	Aggregated	Aggregated	GAS	16.4783311	1038.656	329.6984	1.389143915	1.616824602	1.56E-03	7.85E-04	1.22E-06
TMPO	2045	PTO	Aggregated	Aggregated	DSL	0	520.4991	0	1.04377734	1.214852446	2.33E-03	3.93E-04	9.18E-07
TMPO	2045	SBUS	Aggregated	Aggregated	GAS	5.235176681	255.0969	20.94071	0.176763051	0.205734515	8.06E-04	1.93E-04	1.55E-07
TMPO	2045	SBUS	Aggregated	Aggregated	DSL	17.76790322	611.2998	0	0.832613245	0.969078556	1.59E-03	4.62E-04	7.32E-07
TMPO	2045	T6 CAIRP heavy	Aggregated	Aggregated	DSL	1.21395274	55.64516	0	0.069471107	0.080857421	1.45E-03	4.20E-05	6.11E-08
TMPO	2045	T6 CAIRP small	Aggregated	Aggregated	DSL	3.100481024	170.8169	0	0.217640644	0.253311946	1.48E-03	1.29E-04	1.91E-07
TMPO	2045	T6 instate construction heavy	Aggregated	Aggregated	DSL	20.77644313	1626.212	0	2.073903152	2.413815878	1.48E-03	1.23E-03	1.82E-06
TMPO	2045	T6 instate construction small	Aggregated	Aggregated	DSL	94.94510268	4368.639	0	5.571079539	6.484179476	1.48E-03	3.30E-03	4.90E-06
TMPO	2045	T6 instate heavy	Aggregated	Aggregated	DSL	206.5047482	9229.196	0	11.53585148	13.42657753	1.45E-03	6.97E-03	1.01E-05
TMPO	2045	T6 instate small	Aggregated	Aggregated	DSL	506.2458592	21425.92	0	27.35870404	31.84279563	1.49E-03	1.62E-02	2.41E-05
TMPO	2045	T6 OOS heavy	Aggregated	Aggregated	DSL	0.695807431	31.88259	0	0.039804457	0.046328408	1.45E-03	2.41E-05	3.50E-08
TMPO	2045	T6 OOS small	Aggregated	Aggregated	DSL	1.776459106	97.87168	0	0.12469991	0.145138225	1.48E-03	7.39E-05	1.10E-07
TMPO	2045	T6 Public	Aggregated	Aggregated	DSL	146.3038727	2460.425	0	3.139274764	3.653801898	1.49E-03	1.86E-03	2.76E-06
TMPO	2045	T6 utility	Aggregated	Aggregated	DSL	5.043591857	94.91823	0	0.120936189	0.14075763	1.48E-03	7.17E-05	1.06E-07
TMPO	2045	T6TS	Aggregated	Aggregated	GAS	56.13521826	3017.677	1123.153	4.030731982	4.691368954	1.55E-03	2.28E-03	3.54E-06
TMPO	2045	T7 CAIRP	Aggregated	Aggregated	DSL	34.61200804	8512.181	0	13.41183599	15.61003591	1.83E-03	6.43E-03	1.18E-05
TMPO	2045	T7 CAIRP construction	Aggregated	Aggregated	DSL	5.668138716	1153.622	0	1.856696838	2.161009449	1.87E-03	8.71E-04	1.63E-06
TMPO	2045	T7 NNOOS	Aggregated	Aggregated	DSL	44.37953273	10555.11	0	16.62371933	19.34834692	1.83E-03	7.97E-03	1.46E-05
TMPO	2045	T7 NOOS	Aggregated	Aggregated	DSL	13.67985404	3362.309	0	5.297754491	6.166056453	1.83E-03	2.54E-03	4.66E-06
TMPO	2045	T7 Public	Aggregated	Aggregated	DSL	94.13172742	2157.633	0	3.509290152	4.084462808	1.89E-03	1.63E-03	3.09E-06
TMPO	2045	T7 Single	Aggregated	Aggregated	DSL	24.32652643	2621.338	0	4.239103772	4.93389288	1.88E-03	1.98E-03	3.73E-06
TMPO	2045	T7 single construction	Aggregated	Aggregated	DSL	31.60161103	2984.269	0	4.819753715	5.609711349	1.88E-03	2.25E-03	4.24E-06
TMPO	2045	T7 SWCV	Aggregated	Aggregated	DSL	0.249219389	11.51625	0	0.057669498	0.067121528	5.83E-03	8.70E-06	5.07E-08
TMPO	2045	T7 tractor	Aggregated	Aggregated	DSL	1.071543732	106.1593	0	0.168368347	0.195963919	1.85E-03	8.02E-05	1.48E-07
TMPO	2045	T7 tractor construction	Aggregated	Aggregated	DSL	26.30903041	2224.993	0	3.583575643	4.170923691	1.87E-03	1.68E-03	3.15E-06
TMPO	2045	T7 utility	Aggregated	Aggregated	DSL	2.135207895	48.75989	0	0.078448754	0.091306505	1.87E-03	3.68E-05	6.90E-08
TMPO	2045	T7IS	Aggregated	Aggregated	GAS	3.24227396	396.9723	64.87142	0.702817379	0.818009147	2.06E-03	3.00E-04	6.18E-07
TMPO	2045	UBUS	Aggregated	Aggregated	GAS	4.247593157	719.2259	16.99037	1.275770371	1.484869134	2.06E-03	5.43E-04	1.12E-06
TMPO	2045	UBUS	Aggregated	Aggregated	DSL	4.402782192	739.3087	17.61113	1.703435465	1.982628538	2.68E-03	5.58E-04	1.50E-06

Weighted Emissions Rates (grams/mile)	
CO_2	286.02

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: MPO
Region: TMPO
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	CO2_RUNEX	Adjusted for the SAFE Rule	Emission Rate (g/mile)	Weight	Weighted Emissions Rate
TMPO	2045	All Other Buses	Aggregate	Aggregate	Diesel	4.474195612	89.76176	37.58324	0.112081633	0.12601338	1.40E-03	6.83E-05	9.58E-08
TMPO	2045	LDA	Aggregate	Aggregate	Gasoline	18076.39294	694834.3	83426.73	148.888653	167.3955125	2.41E-04	5.28E-01	1.27E-04
TMPO	2045	LDA	Aggregate	Aggregate	Diesel	225.7929853	8679.488	1042.106	1.528288068	1.718254275	1.98E-04	6.60E-03	1.31E-06
TMPO	2045	LDA	Aggregate	Aggregate	Electricity	1168.729611	47864.24	5448.667	0	0	0.00E+00	3.64E-02	0.00E+00
TMPO	2045	LDT1	Aggregate	Aggregate	Gasoline	1803.389487	67272.2	8135.354	16.66074924	18.73168037	2.78E-04	5.12E-02	1.42E-05
TMPO	2045	LDT1	Aggregate	Aggregate	Diesel	0.281994524	9.538715	1.213139	0.003250162	0.003654157	3.83E-04	7.25E-06	2.78E-09
TMPO	2045	LDT1	Aggregate	Aggregate	Electricity	66.11956	2714.011	307.778	0	0	0.00E+00	2.06E-03	0.00E+00
TMPO	2045	LDT2	Aggregate	Aggregate	Gasoline	6276.464111	226965.7	27951.19	56.63992194	63.68026424	2.81E-04	1.73E-01	4.84E-05
TMPO	2045	LDT2	Aggregate	Aggregate	Diesel	61.93634584	2339.034	281.3315	0.550892871	0.619368855	2.65E-04	1.78E-03	4.71E-07
TMPO	2045	LDT2	Aggregate	Aggregate	Electricity	256.8522853	7278.033	1195.304	0	0	0.00E+00	5.54E-03	0.00E+00
TMPO	2045	LHD1	Aggregate	Aggregate	Gasoline	427.8497867	15304.31	6374.324	14.04201909	15.78744206	1.03E-03	1.16E-02	1.20E-05
TMPO	2045	LHD1	Aggregate	Aggregate	Diesel	325.494183	12362.96	4094.307	6.07290951	6.827772162	5.52E-04	9.40E-03	5.19E-06
TMPO	2045	LHD2	Aggregate	Aggregate	Gasoline	45.60167246	1794.849	679.397	1.85662233	2.087400485	1.16E-03	1.37E-03	1.59E-06
TMPO	2045	LHD2	Aggregate	Aggregate	Diesel	145.0789066	5127.101	1824.91	2.885237824	3.243872885	6.33E-04	3.90E-03	2.47E-06
TMPO	2045	MCY	Aggregate	Aggregate	Gasoline	927.5653881	6269.453	1855.131	1.522319489	1.711543801	2.73E-04	4.77E-03	1.30E-06
TMPO	2045	MDV	Aggregate	Aggregate	Gasoline	3918.469112	137684.7	17258.64	41.74401408	46.93279503	3.41E-04	1.05E-01	3.57E-05
TMPO	2045	MDV	Aggregate	Aggregate	Diesel	135.8143196	4999.957	612.2369	1.517157458	1.70574013	3.41E-04	3.80E-03	1.30E-06
TMPO	2045	MDV	Aggregate	Aggregate	Electricity	182.0280576	5180.592	848.5145	0	0	0.00E+00	3.94E-03	0.00E+00
TMPO	2045	MH	Aggregate	Aggregate	Gasoline	48.28938646	558.3261	4.83087	0.874112623	0.982764822	1.76E-03	4.25E-04	7.47E-07
TMPO	2045	MH	Aggregate	Aggregate	Diesel	30.26855911	279.905	3.026856	0.26890866	0.302334007	1.08E-03	2.13E-04	2.30E-07
TMPO	2045	Motor Coach	Aggregate	Aggregate	Diesel	12.42754209	1553.112	181.4421	2.005843753	2.255170132	1.45E-03	1.18E-03	1.72E-06
TMPO	2045	OBUS	Aggregate	Aggregate	Gasoline	9.976956218	497.8143	199.6189	0.785562116	0.883207487	1.77E-03	3.79E-04	6.72E-07
TMPO	2045	PTO	Aggregate	Aggregate	Diesel	0	232.0613	0	0.380638037	0.427951345	1.84E-03	1.76E-04	3.25E-07
TMPO	2045	SBUS	Aggregate	Aggregate	Gasoline	6.128002804	302.4541	24.51201	0.233567822	0.262600302	8.68E-04	2.30E-04	2.00E-07
TMPO	2045	SBUS	Aggregate	Aggregate	Diesel	24.97806222	792.2016	288.2434	0.720629599	0.810203859	1.02E-03	6.02E-04	6.16E-07
TMPO	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.005160895	0.322812	0.075349	0.00033866	0.000380755	1.18E-03	2.46E-07	2.90E-10
TMPO	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.002278352	0.045244	0.033264	4.90905E-05	5.51925E-05	1.22E-03	3.44E-08	4.20E-11
TMPO	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	30.79550121	2061.896	139.2253	2.263260596	2.544583889	1.23E-03	1.57E-03	1.94E-06
TMPO	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	109.0532801	5392.838	493.0256	5.573548691	6.266340794	1.16E-03	4.10E-03	4.77E-06
TMPO	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	70.50254768	7289.936	813.5896	5.939589179	6.677880114	9.16E-04	5.54E-03	5.08E-06
TMPO	2045	T6 instate small	Aggregate	Aggregate	Diesel	221.9318884	9975.648	2561.063	8.786543278	9.878710608	9.90E-04	7.59E-03	7.51E-06
TMPO	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.002716523	0.168345	0.039661	0.000176336	0.000198254	1.18E-03	1.28E-07	1.51E-10
TMPO	2045	T6 OOS small	Aggregate	Aggregate	Diesel	0.006030987	0.137617	0.088052	0.000150567	0.000169282	1.23E-03	1.05E-07	1.29E-10
TMPO	2045	T6 Public	Aggregate	Aggregate	Diesel	157.8903187	2454.75	478.934	2.326044325	2.615171635	1.07E-03	1.87E-03	1.99E-06
TMPO	2045	T6 utility	Aggregate	Aggregate	Diesel	5.37737046	89.59712	61.83976	0.07764211	0.087293024	9.74E-04	6.81E-05	6.64E-08
TMPO	2045	T6TS	Aggregate	Aggregate	Gasoline	64.92888759	3585.329	1299.097	5.565974067	6.257824643	1.75E-03	2.73E-03	4.76E-06
TMPO	2045	T7 CAIRP	Aggregate	Aggregate	Diesel	39.74570363	8269.156	580.2873	8.569031613	9.634162243	1.17E-03	6.29E-03	7.33E-06
TMPO	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	8.481161437	1481.078	38.343	2.082749179	2.341634902	1.58E-03	1.13E-03	1.78E-06
TMPO	2045	T7 NNOOS	Aggregate	Aggregate	Diesel	62.32809436	10154.16	909.9902	10.52613304	11.83453138	1.17E-03	7.72E-03	9.00E-06
TMPO	2045	T7 NOOS	Aggregate	Aggregate	Diesel	15.63027505	3215.181	228.202	3.333335049	3.747668596	1.17E-03	2.45E-03	2.85E-06
TMPO	2045	T7 Public	Aggregate	Aggregate	Diesel	100.3988503	2033.856	304.5432	2.729346778	3.068604582	1.51E-03	1.55E-03	2.33E-06
TMPO	2045	T7 Single	Aggregate	Aggregate	Diesel	14.43218071	1168.707	166.5454	1.421980417	1.598732583	1.37E-03	8.89E-04	1.22E-06
TMPO	2045	T7 single construction	Aggregate	Aggregate	Diesel	48.1697689	3674.282	217.7737	5.42830291	6.103040962	1.66E-03	2.79E-03	4.64E-06
TMPO	2045	T7 tractor	Aggregate	Aggregate	Diesel	0.451728929	56.08202	5.736957	0.056538021	0.063565697	1.13E-03	4.27E-05	4.83E-08
TMPO	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	40.83205441	3030.959	184.6001	4.391351686	4.937196701	1.63E-03	2.31E-03	3.75E-06
TMPO	2045	T7 utility	Aggregate	Aggregate	Diesel	1.9711495	39.95983	22.66822	0.051481877	0.057881074	1.45E-03	3.04E-05	4.40E-08
TMPO	2045	T7IS	Aggregate	Aggregate	Gasoline	0.257652303	32.80351	5.155107	0.055288815	0.062161215	1.89E-03	2.49E-05	4.73E-08

Appendix B

Basinwide Mobile Source Greenhouse Gas Emissions Calculations

Emissions Estimates									
Annual Emissions (metric tons per year)									
	El Dorado County (LT) + Nevada				Placer County (LT) + Nevada				Total
Year	CO_2	CH_4	N_2O	CO_2e	CO_2	CH_4	N_2O	CO_2e	CO_2e
2018	143,408	13	12	147,056	64,422	6	5	65,950	213,006
2045	84,682	2	6	86,364	34,532	1	2	35,173	121,537
Net Change (2018 to 2045)	(58,726)	(11)	(6)	(60,692)	(29,890)	(5)	(3)	(30,777)	(91,469)

Emissions Estimates - Adjusted for SAFE Rule									
Annual Emissions (metric tons per year)									
	El Dorado County (LT) + Nevada				Placer County (LT) + Nevada				Total
Year	CO_2	CH_4	N_2O	CO_2e	CO_2	CH_4	N_2O	CO_2e	CO_2e
2018	143,408	13	12	147,056	64,422	6	5	65,950	213,006
2045	91,565	2	6	93,247	37,724	1	2	38,366	131,612
Net Change (2018 to 2045)	(51,843)	(11)	(6)	(53,809)	(26,697)	(5)	(3)	(27,585)	(81,394)

**GWPs of 25 for CH_4 and 265 for N_2O were utilized to calculate CO_2e.*

	El Dorado County + Nevada		Placer County + Nevada	
	2018	2045	2018	2045
Daily VMT	880,758	904,403	458,112	454,171
Daily Trips	144,683	150,866	75,255	75,761
Daily Vehicles	30,601	31,908	15,916	16,024

- Daily Trips and Daily Vehicles assigned proportionally to each county based on VMT.

	2018	2045
Daily Trips (POST-TRIA)	219,938	226,627
Number of Vehicles (PRE-TRIA)	46,517	49,460
Number of Vehicles (POST-TRIA)	46,517	47,932

**Number of Vehicles POST-TRIA estimated assuming same proportional reduction from 2018 in daily vehicle as daily trips.*
Source: Email from Reid Haefer at 7/29/2020.

Days per Year	365

SCENARIO	El Dorado County (LT) 2018 - RUNEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	El Dorado (LT)
Calendar Year	2018
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

SAFE Rule Adjustment Factors	
CO_2	1

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Daily VMT	880,758

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 RUNEX	CH_4 RUNEX	N_2O RUNEX	Percent Speed	Fleet Mix	Vehicle Activity per Day	CO_2 RUNEX Emissions (tons/day)	Adjusted for SAFE Rule (tons/day)	CH_4 RUNEX Emissions (tons/day)	N_2O RUNEX Emissions (tons/day)
El Dorado (LT)	2020	All Other Buses	Aggregate	5	Diesel	2583.570146	0.283322613	0.406101249	0.002%	0.10%	0.01607611	4.15338E-05	4.15338E-05	4.55473E-09	6.52853E-09
El Dorado (LT)	2020	All Other Buses	Aggregate	10	Diesel	2244.417228	0.220757201	0.352791133	0.011%	0.10%	0.102668003	0.00023043	0.00023043	2.26647E-08	3.62204E-08
El Dorado (LT)	2020	All Other Buses	Aggregate	15	Diesel	1813.092992	0.122455774	0.28499297	7.441%	0.10%	67.1741483	0.121792978	0.121792978	8.22586E-06	1.91442E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	20	Diesel	1522.847092	0.059122757	0.239370356	0.207%	0.10%	1.866972003	0.002843113	0.002843113	1.10381E-07	4.46898E-07
El Dorado (LT)	2020	All Other Buses	Aggregate	25	Diesel	1351.061738	0.041794682	0.212368091	9.881%	0.10%	89.20240365	0.120517955	0.120517955	3.72819E-06	1.89437E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	30	Diesel	1231.693292	0.034545479	0.193605033	3.122%	0.10%	28.18713986	0.034717911	0.034717911	9.73738E-07	5.45717E-06
El Dorado (LT)	2020	All Other Buses	Aggregate	35	Diesel	1137.491142	0.028912233	0.178797767	29.790%	0.10%	268.9319156	0.305907672	0.305907672	7.77542E-06	4.80844E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	40	Diesel	1067.829776	0.024874823	0.16784797	12.632%	0.10%	114.0341763	0.121769089	0.121769089	2.83658E-06	1.91404E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	45	Diesel	1022.342474	0.022417062	0.160698	18.146%	0.10%	163.8191759	0.167479302	0.167479302	3.67234E-06	2.63254E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	50	Diesel	1000.798543	0.021525317	0.157311594	10.003%	0.10%	90.30867945	0.090380795	0.090380795	1.94392E-06	1.42066E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	55	Diesel	1003.045584	0.022187487	0.157664798	8.765%	0.10%	79.12888384	0.079369878	0.079369878	1.75567E-06	1.24758E-05
El Dorado (LT)	2020	All Other Buses	Aggregate	60	Diesel	1028.968152	0.023118635	0.161739464	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	65	Diesel	1073.282095	0.023152048	0.168704999	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	70	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	75	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	80	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	85	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	All Other Buses	Aggregate	90	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2020	LDA	Aggregate	10	Gasoline	586.7089774	0.044081884	0.020770163	0.011%	28.59%	28.63368032	0.016799637	0.016799637	1.26223E-06	5.94726E-07
El Dorado (LT)	2020	LDA	Aggregate	10	Diesel	509.7760757	0.010566907	0.0801297	0.011%	0.29%	0.289844888	0.000147756	0.000147756	3.06276E-09	2.32252E-08
El Dorado (LT)	2020	LDA	Aggregate	15	Gasoline	479.9838545	0.030051506	0.018278014	7.441%	28.59%	18734.59135	8.992301371	8.992301371	0.000563003	0.000342431
El Dorado (LT)	2020	LDA	Aggregate	15	Diesel	419.2893716	0.006412577	0.06590645	7.441%	0.29%	189.6412016	0.07951454	0.07951454	1.21609E-06	1.24986E-05
El Dorado (LT)	2020	LDA	Aggregate	20	Gasoline	399.1891304	0.021576039	0.016385157	0.207%	28.59%	520.6907484	0.207854087	0.207854087	1.12344E-05	8.5316E-06
El Dorado (LT)	2020	LDA	Aggregate	20	Diesel	343.9534265	0.003912495	0.054064689	0.207%	0.29%	5.270700455	0.001812875	0.001812875	2.06216E-08	2.84959E-07
El Dorado (LT)	2020	LDA	Aggregate	25	Gasoline	341.3649819	0.01630467	0.01495628	9.881%	28.59%	24878.18041	8.492539605	8.492539605	0.000405631	0.000372085
El Dorado (LT)	2020	LDA	Aggregate	25	Diesel	288.3160897	0.002920501	0.045319274	9.881%	0.29%	251.8297803	0.072606578	0.072606578	7.35469E-07	1.14127E-05
El Dorado (LT)	2020	LDA	Aggregate	30	Gasoline	302.9682284	0.012961605	0.013895602	3.122%	28.59%	7861.276399	2.381716984	2.381716984	0.000101895	0.000109237
El Dorado (LT)	2020	LDA	Aggregate	30	Diesel	249.734638	0.002389528	0.039254807	3.122%	0.29%	79.57589648	0.019872858	0.019872858	1.90149E-07	3.12374E-06
El Dorado (LT)	2020	LDA	Aggregate	35	Gasoline	280.7990348	0.010835033	0.013136608	29.790%	28.59%	75003.99586	21.06104964	21.06104964	0.000812671	0.000985298
El Dorado (LT)	2020	LDA	Aggregate	35	Diesel	225.7550823	0.002051238	0.035485555	29.790%	0.29%	759.2291515	0.17139984	0.17139984	1.55736E-06	2.69417E-05
El Dorado (LT)	2020	LDA	Aggregate	40	Gasoline	271.6738164	0.009521269	0.012633839	12.632%	28.59%	31803.65882	8.640221366	8.640221366	0.000302811	0.000401802
El Dorado (LT)	2020	LDA	Aggregate	40	Diesel	211.2562403	0.001842181	0.033206539	12.632%	0.29%	321.9330467	0.068010365	0.068010365	5.93059E-07	1.06903E-05
El Dorado (LT)	2020	LDA	Aggregate	45	Gasoline	272.4197028	0.008793772	0.012358469	18.146%	28.59%	45688.48872	12.44644452	12.44644452	0.000401774	0.00056464
El Dorado (LT)	2020	LDA	Aggregate	45	Diesel	204.0572992	0.001728972	0.032074966	18.146%	0.29%	462.4824601	0.094372922	0.094372922	7.99619E-07	1.48341E-05
El Dorado (LT)	2020	LDA	Aggregate	50	Gasoline	280.1881797	0.008535877	0.012295435	10.003%	28.59%	25186.71614	7.057020149	7.057020149	0.000214991	0.000309682
El Dorado (LT)	2020	LDA	Aggregate	50	Diesel	204.5767434	0.001695707	0.032156615	10.003%	0.29%	254.9529382	0.052157442	0.052157442	4.32326E-07	8.19842E-06
El Dorado (LT)	2020	LDT1	Aggregate	10	Gasoline	678.3844562	0.059819267	0.031476409	0.011%	7.42%	7.428758235	0.005039554	0.005039554	4.44383E-07	2.33831E-07
El Dorado (LT)	2020	LDT1	Aggregate	10	Diesel	1006.140423	0.020920171	0.158151263	0.011%	0.01%	0.007920032	7.96866E-06	7.96866E-06	1.65688E-10	1.25256E-09
El Dorado (LT)	2020	LDT1	Aggregate	15	Gasoline	555.0181362	0.04129301	0.027185697	7.441%	7.42%	4860.526075	2.697680123	2.697680123	0.000200706	0.000132137
El Dorado (LT)	2020	LDT1	Aggregate	15	Diesel	834.2562315	0.015220455	0.131133462	7.441%	0.01%	5.18195928	0.004323082	0.004323082	7.88718E-08	6.79528E-07
El Dorado (LT)	2020	LDT1	Aggregate	20	Gasoline	461.6331854	0.029952864	0.024020771	0.207%	7.42%	135.0886663	0.062361411	0.062361411	4.04629E-06	3.24493E-06
El Dorado (LT)	2020	LDT1	Aggregate	20	Diesel	685.4051856	0.011587936	0.10773615	0.207%	0.01%	0.144022264	9.87136E-05	9.87136E-05	1.66892E-09	1.55164E-08
El Dorado (LT)	2020	LDT1	Aggregate	25	Gasoline	394.7893076	0.022808682	0.021697222	9.881%	7.42%	6454.426589	2.548138604	2.548138604	0.000147217	0.000140043
El Dorado (LT)	2020	LDT1	Aggregate	25	Diesel	574.6875406	0.00924086	0.090332878	9.881%	0.01%	6.881266605	0.003954578	0.003954578	6.35888E-08	6.21605E-07
El Dorado (LT)	2020	LDT1	Aggregate	30	Gasoline	350.3844694	0.01821891	0.020023277	3.122%	7.42%	2039.539491	0.714622962	0.714622962	3.71582E-05	4.08383E-05
El Dorado (LT)	2020	LDT1	Aggregate	30	Diesel	496.9420866	0.007713241	0.078112376	3.122%	0.01%	2.174417014	0.001080559	0.001080559	1.67718E-08	1.69849E-07
El Dorado (LT)	2020	LDT1	Aggregate	35	Gasoline	324.718788	0.015256594	0.018871636	29.790%	7.42%	19459.13154	6.318745611	6.318745611	0.00029688	0.000367226
El Dorado (LT)	2020	LDT1	Aggregate	35	Diesel	448.509332	0.006737272	0.070499421	29.790%	0.01%	20.7459904	0.00930477	0.00930477	1.39771E-07	1.46258E-06
El Dorado (LT)	2020	LDT1	Aggregate	40	Gasoline	314.1154068	0.013389281	0.018160568	12.632%	7.42%	8251.181467	2.591823223	2.591823223	0.000110477	0.000149846
El Dorado (LT)	2020	LDT1	Aggregate	40	Diesel	418.6029665	0.006158127	0.065798557	12.632%	0.01%	8.796843329	0.003682385	0.003682385	5.41721E-08	5.7882E-07
El Dorado (LT)	2020	LDT1	Aggregate	45	Gasoline	314.9128155	0.012313258	0.01784348	18.146%	7.42%	11853.4793	3.732812538	3.732812538	0.000145955	0.000211507
El Dorado (LT)	2020	LDT1	Aggregate	45	Diesel	403.6042755	0.005890176	0.063440972	18.146%	0.01%	12.63736602	0.005100495	0.005100495	7.44363E-08	8.01727E-07
El Dorado (LT)	2020	LDT1	Aggregate	50	Gasoline	323.8255742	0.011867345	0.017903301	10.003%	7.42%	6534.47349	2.11602963	2.11602963	7.75469E-05	0.000116989
El Dorado (LT)	2020	LDT1	Aggregate	50	Diesel	404.2747533	0.005895527	0.063546361	10.003%	0.01%	6.966607116	0.002816423	0.002816423	4.10718E-08	4.42703E-07
El Dorado (LT)	2020	LDT2	Aggregate	10	Gasoline	765.2182266	0.042130528	0.028936621	0.011%	32.03%	32.08358621	0.024550945	0.024550945	1.3517E-06	9.28391E-07
El Dorado (LT)	2020	LDT2	Aggregate	10	Diesel	673.7547627	0.009692316	0.105904866	0.011%	0.12%	0.119368395	8.0425E-05	8.0425E-05	1.15696E-09	1.26417E-08
El Dorado (LT)	2020	LDT2	Aggregate	15	Gasoline	626.1079184	0.028627759	0.025167595	7.441%	32.03%	20991.81349	13.14314065	13.14314065	0.000600949	0.000528313
El Dorado (LT)	2020	LDT2	Aggregate	15	Diesel	558.653739	0.00513111	0.087812588	7.441%	0.12%	78.10096607	0.043631397	0.043631397	4.00745E-07	6.85825E-06
El Dorado (LT)	2020	LDT2	Aggregate	20	Gasoline	520.7343662	0.020470755	0.022336834	0.207%	32.03%	583.4257535	0.30380984	0.30380984	1.19432E-05	1.30319E-05
El Dorado (LT)	2020	LDT2	Aggregate	20	Diesel	458.9766971	0.002446352	0.072144745	0.207%	0.12%	2.170661196	0.000996283	0.000996283	5.3102E-09	1.56602E-07
El Dorado (LT)	2020	LDT2	Aggregate	25	Gasoline	445.3005341	0.015391422	0.020219999	9.881%	32.03%	27875.60792	12.4130231	12.4130231	0.000429045	0.000563645
El Dorado (LT)	2020	LDT2	Aggregate	25	Diesel	384.8354153	0.001650379	0.060490768	9.881%	0.12%	103.7124262	0.039912215	0.039912215	1.71165E-07	6.27364E-06

El Dorado (LT)	2020	LDT2	Aggregate	30	Gasoline	395.2119297	0.012159768	0.018662225	3.122%	32.03%	8808.43595	3.481198969	3.481198969	0.000107109	0.000164385
El Dorado (LT)	2020	LDT2	Aggregate	30	Diesel	332.7737261	0.001304999	0.052307396	3.122%	0.12%	32.77217366	0.010905718	0.010905718	4.27677E-08	1.71423E-06
El Dorado (LT)	2020	LDT2	Aggregate	35	Gasoline	366.3044347	0.010089069	0.017558408	29.790%	32.03%	84040.79185	30.78451475	30.78451475	0.000847893	0.001475622
El Dorado (LT)	2020	LDT2	Aggregate	35	Diesel	300.3410773	0.001085756	0.047209435	29.790%	0.12%	312.6774652	0.093909887	0.093909887	3.39491E-07	1.47613E-05
El Dorado (LT)	2020	LDT2	Aggregate	40	Gasoline	354.4238001	0.008788564	0.016838895	12.632%	32.03%	35635.49702	12.63006827	12.63006827	0.000313185	0.000600062
El Dorado (LT)	2020	LDT2	Aggregate	40	Diesel	280.3144928	0.000943136	0.044061535	12.632%	0.12%	132.5834352	0.037165058	0.037165058	1.25044E-07	5.84183E-06
El Dorado (LT)	2020	LDT2	Aggregate	45	Gasoline	355.4220798	0.00803674	0.01646169	18.146%	32.03%	51193.22946	18.19520408	18.19520408	0.000411427	0.000842727
El Dorado (LT)	2020	LDT2	Aggregate	45	Diesel	270.2707263	0.000852327	0.042482794	18.146%	0.12%	190.4666635	0.051477563	0.051477563	1.6234E-07	8.09156E-06
El Dorado (LT)	2020	LDT2	Aggregate	50	Gasoline	365.5695211	0.007715858	0.016407879	10.003%	32.03%	28221.31734	10.31685346	10.31685346	0.000217752	0.000463052
El Dorado (LT)	2020	LDT2	Aggregate	50	Diesel	270.7197069	0.000800643	0.042553368	10.003%	0.12%	104.9986533	0.028425205	0.028425205	8.40665E-08	4.46805E-06
El Dorado (LT)	2020	LHD1	Aggregate	5	Gasoline	1998.391807	0.132864132	0.051992131	0.002%	3.03%	0.47594839	0.000951131	0.000951131	6.32365E-08	2.47456E-08
El Dorado (LT)	2020	LHD1	Aggregate	5	Diesel	1297.77628	0.036914734	0.203992359	0.002%	2.82%	0.442744168	0.000574583	0.000574583	1.63438E-08	9.03164E-08
El Dorado (LT)	2020	LHD1	Aggregate	10	Gasoline	1620.370115	0.088457402	0.045769834	0.011%	3.03%	3.039583086	0.00492525	0.00492525	2.68874E-07	1.39121E-07
El Dorado (LT)	2020	LHD1	Aggregate	10	Diesel	1090.983454	0.026358154	0.171487406	0.011%	2.82%	2.8275286	0.003084787	0.003084787	7.45284E-08	4.84886E-07
El Dorado (LT)	2020	LHD1	Aggregate	15	Gasoline	1324.307802	0.061835659	0.041155983	7.441%	3.03%	1988.754026	2.633722473	2.633722473	0.000122976	8.18491E-05
El Dorado (LT)	2020	LHD1	Aggregate	15	Diesel	712.5034908	0.016937732	0.111995627	7.441%	2.82%	1850.009928	1.318138532	1.318138532	3.1335E-05	0.000207193
El Dorado (LT)	2020	LHD1	Aggregate	20	Gasoline	1100.482512	0.045299294	0.037819455	0.207%	3.03%	55.27346727	0.060827484	0.060827484	2.50385E-06	2.09041E-06
El Dorado (LT)	2020	LHD1	Aggregate	20	Diesel	607.3016331	0.011192975	0.09545936	0.207%	2.82%	51.41735071	0.031225841	0.031225841	5.75513E-07	4.90827E-06
El Dorado (LT)	2020	LHD1	Aggregate	25	Gasoline	940.4972267	0.03475857	0.035614638	9.881%	3.03%	2640.921305	2.483779163	2.483779163	9.17946E-05	9.40555E-05
El Dorado (LT)	2020	LHD1	Aggregate	25	Diesel	538.6187103	0.008575573	0.084663361	9.881%	2.82%	2456.679192	1.323213378	1.323213378	2.10674E-05	0.000207991
El Dorado (LT)	2020	LHD1	Aggregate	30	Gasoline	834.4667995	0.028279172	0.033565497	3.122%	3.03%	834.5068644	0.696368272	0.696368272	2.35992E-05	2.80106E-05
El Dorado (LT)	2020	LHD1	Aggregate	30	Diesel	489.124018	0.007073344	0.076883484	3.122%	2.82%	776.2880499	0.37970113	0.37970113	5.49095E-06	5.96837E-05
El Dorado (LT)	2020	LHD1	Aggregate	35	Gasoline	773.4127918	0.023867014	0.032803538	29.790%	3.03%	7961.983045	6.157899535	6.157899535	0.000190029	0.000261181
El Dorado (LT)	2020	LHD1	Aggregate	35	Diesel	489.124018	0.006115245	0.076883484	29.790%	2.82%	7406.520611	3.622707121	3.622707121	4.52927E-05	0.000569439
El Dorado (LT)	2020	LHD1	Aggregate	40	Gasoline	748.5194422	0.020972502	0.032982715	12.632%	3.03%	3376.089359	2.527068524	2.527068524	7.0805E-05	0.000111353
El Dorado (LT)	2020	LHD1	Aggregate	40	Diesel	475.7336427	0.005532107	0.074778704	12.632%	2.82%	3140.558738	1.494069448	1.494069448	1.73739E-05	0.000234847
El Dorado (LT)	2020	LHD1	Aggregate	45	Gasoline	751.0880381	0.01987737	0.032142501	18.146%	3.03%	4850.021234	3.642792933	3.642792933	9.64057E-05	0.000155892
El Dorado (LT)	2020	LHD1	Aggregate	45	Diesel	464.040735	0.005233367	0.072940741	18.146%	2.82%	4511.662739	2.093595294	2.093595294	2.36112E-05	0.000329084
El Dorado (LT)	2020	LHD1	Aggregate	50	Gasoline	773.2292978	0.020083769	0.030984625	10.003%	3.03%	2673.673643	2.067362794	2.067362794	5.36974E-05	8.28428E-05
El Dorado (LT)	2020	LHD1	Aggregate	50	Diesel	486.4846854	0.005176961	0.076468618	10.003%	2.82%	2487.146586	1.209958724	1.209958724	1.28759E-05	0.000190189
El Dorado (LT)	2020	LHD1	Aggregate	55	Gasoline	805.2473199	0.020261677	0.032849439	8.765%	3.03%	2342.685248	1.886441018	1.886441018	4.74667E-05	7.69559E-05
El Dorado (LT)	2020	LHD1	Aggregate	55	Diesel	508.3592322	0.005356967	0.079906992	8.765%	2.82%	2179.249376	1.107841539	1.107841539	1.16742E-05	0.000174137
El Dorado (LT)	2020	LHD2	Aggregate	5	Gasoline	2282.665576	0.108354635	0.040876772	0.002%	0.30%	0.046482473	0.000106104	0.000106104	5.03659E-09	1.90005E-09
El Dorado (LT)	2020	LHD2	Aggregate	5	Diesel	1365.750902	0.035118539	0.214677023	0.002%	0.70%	0.109523232	0.000149581	0.000149581	3.8463E-09	2.35121E-08
El Dorado (LT)	2020	LHD2	Aggregate	10	Gasoline	1851.301942	0.072758526	0.036215058	0.011%	0.30%	0.296854326	0.000549567	0.000549567	2.15987E-08	1.07506E-08
El Dorado (LT)	2020	LHD2	Aggregate	10	Diesel	1213.785497	0.025517452	0.190790177	0.011%	0.70%	0.699456011	0.00084899	0.00084899	1.78483E-08	1.33449E-07
El Dorado (LT)	2020	LHD2	Aggregate	15	Gasoline	1513.172433	0.051220087	0.032781042	7.441%	0.30%	194.2273727	0.293899506	0.293899506	9.94834E-06	6.36698E-06
El Dorado (LT)	2020	LHD2	Aggregate	15	Diesel	807.9805064	0.014920839	0.127003284	7.441%	0.70%	457.6436697	0.369767164	0.369767164	6.82843E-06	5.81222E-05
El Dorado (LT)	2020	LHD2	Aggregate	20	Gasoline	1257.417911	0.037721226	0.030324651	0.207%	0.30%	5.39816397	0.006787748	0.006787748	2.03625E-07	1.63697E-07
El Dorado (LT)	2020	LHD2	Aggregate	20	Diesel	689.1479312	0.00858904	0.108324458	0.207%	0.70%	12.71929664	0.008765477	0.008765477	1.09247E-07	1.37781E-06
El Dorado (LT)	2020	LHD2	Aggregate	25	Gasoline	1074.560306	0.029034915	0.028741375	9.881%	0.30%	257.9198834	0.277150469	0.277150469	7.48868E-06	7.41297E-06
El Dorado (LT)	2020	LHD2	Aggregate	25	Diesel	614.1386326	0.006279194	0.096534041	9.881%	0.70%	607.7176471	0.373222885	0.373222885	3.81598E-06	5.86654E-05
El Dorado (LT)	2020	LHD2	Aggregate	30	Gasoline	953.4213019	0.023744845	0.027259302	3.122%	0.30%	81.50031308	0.077704135	0.077704135	1.93521E-06	2.22164E-06
El Dorado (LT)	2020	LHD2	Aggregate	30	Diesel	553.8550858	0.005103495	0.087058307	3.122%	0.70%	192.0331921	0.10635856	0.10635856	9.8004E-07	1.67181E-05
El Dorado (LT)	2020	LHD2	Aggregate	35	Gasoline	883.6409986	0.020044892	0.026786451	29.790%	0.30%	777.589902	0.687110318	0.687110318	1.55867E-05	2.08289E-05
El Dorado (LT)	2020	LHD2	Aggregate	35	Diesel	553.8550858	0.004355045	0.087058307	29.790%	0.70%	1832.177882	1.014761038	1.014761038	7.97922E-06	0.000159506
El Dorado (LT)	2020	LHD2	Aggregate	40	Gasoline	855.1681952	0.017550014	0.027054644	12.632%	0.30%	329.7184858	0.281964762	0.281964762	5.78656E-06	8.92042E-06
El Dorado (LT)	2020	LHD2	Aggregate	40	Diesel	533.6256659	0.003887153	0.083878524	12.632%	0.70%	776.891412	0.414569197	0.414569197	3.0199E-06	6.51645E-05
El Dorado (LT)	2020	LHD2	Aggregate	45	Gasoline	858.1953212	0.016720574	0.026481647	18.146%	0.30%	473.6668635	0.406498686	0.406498686	7.91998E-06	1.25435E-05
El Dorado (LT)	2020	LHD2	Aggregate	45	Diesel	512.9453352	0.003623571	0.080627864	18.146%	0.70%	1116.066385	0.572481046	0.572481046	4.04415E-06	8.9986E-05
El Dorado (LT)	2020	LHD2	Aggregate	50	Gasoline	883.63715	0.017059307	0.025628696	10.003%	0.30%	261.1185699	0.230734069	0.230734069	4.4545E-06	6.69213E-06
El Dorado (LT)	2020	LHD2	Aggregate	50	Diesel	531.8379752	0.003527319	0.083597523	10.003%	0.70%	615.2544768	0.327215695	0.327215695	2.1702E-06	5.14338E-05
El Dorado (LT)	2020	LHD2	Aggregate	55	Gasoline	920.0394722	0.017068113	0.027208235	8.765%	0.30%	228.7933022	0.210498869	0.210498869	3.90507E-06	6.22506E-06
El Dorado (LT)	2020	LHD2	Aggregate	55	Diesel	550.4779207	0.003588121	0.086527463	8.765%	0.70%	539.0888265	0.296756496	0.296756496	1.93432E-06	4.6646E-05
El Dorado (LT)	2020	MCY	Aggregate	10	Gasoline	453.3179942	1.341842995	0.081590884	0.011%	0.65%	0.652976148	0.000296006	0.000296006	8.76191E-07	5.32769E-08
El Dorado (LT)	2020	MCY	Aggregate	15	Gasoline	362.5395071	0.938502046	0.077244631	7.441%	0.65%	427.2325864	0.154888691	0.154888691	0.000400959	3.30014E-05
El Dorado (LT)	2020	MCY	Aggregate	20	Gasoline	297.6511571	0.690600632	0.0742608	0.207%	0.65%	11.874081	0.003534334	0.003534334	8.20025E-06	8.81779E-07
El Dorado (LT)	2020	MCY	Aggregate	25	Gasoline	252.6130981	0.534379843	0.072360448	9.881%	0.65%	567.3339311	0.143315982	0.143315982	0.000303172	4.10525E-05
El Dorado (LT)	2020	MCY	Aggregate	30	Gasoline	222.9849551	0.434610037	0.071337609	3.122%	0.65%	179.2723089	0.039975028	0.039975028	7.79135E-05	1.27889E-05
El Dorado (LT)	2020	MCY	Aggregate	35	Gasoline	205.5936672	0.371362455	0.071043079	29.790%	0.65%	1710.427014	0.351652962	0.351652962	0.000635188	0.000121514
El Dorado (LT)	2020	MCY	Aggregate	40	Gasoline	197.9152161	0.333265691	0.071369716	12.632%	0.65%	725.2658549	0.143541148	0.143541148	0.000241706	5.1762E-05
El Dorado (LT)	2020	MCY	Aggregate	45	Gasoline	197.8558721	0.314012331	0.07224431	18.146%	0.65%	1041.90216	0.206146461	0.206146461	0.00032717	7.52715E-05
El Dorado (LT)	2020	MCY	Aggregate	50	Gasoline	203.8387527	0.310569093	0.073620211	10.003%	0.65%	574.3699276	0.11707885	0.11707885	0.000178382	4.22852E-05
El Dorado (LT)	2020	MDV	Aggregate	10	Gasoline	907.1391852	0.05272326	0.031158366	0.011%	18.57%	18.60438242	0.016876764	0.016876764	9.80884E-07	5.79682E-07
El Dorado (LT)	2020	MDV	Aggregate	10	Diesel	840.259948	0.007755348	0.132077163	0.011%	0.38%	0.381181622	0.000320292	0.000320292	2.9562E-09	5.03454E-08
El Dorado (LT)	2020	MDV	Aggregate	15	Gasoline	741.9037694	0.036229279	0.02713537	7.441%	18.57%	12172.57084	9.030876188	9.030876188	0.000441003	0.000330307
El Dorado (LT)	2020	MDV	Aggregate	15	Diesel	712.5968621	0.004167305	0.112010303	7.441%	0.38%	249.4014684	0.177722704	0.177722704	1.03933E-06	2.79355E-05
El Dorado (LT)	2020	MDV	Aggregate	20	Gasoline	616.8532799	0.026192167	0.02413088	0.207%	18.57%	338.3124243	0.208689129	0.208689129	8.86114E-06	8.16378E-06
El Dorado (LT)	2020	MDV	Aggregate	20	Diesel	591.8088724	0.002051231	0.093024113	0.207%	0.38%	6.93161835	0.004102193	0.004102193	1.42183E-08	6.44808E-07
El Dorado (LT)	2020	MDV	Aggregate	25	Gasoline	527.389982	0.019906659	0.021898412	9.881%	18.57%	16164.29244	8.524885896	8.524885896	0.000321777	0.000353972
El Dorado (LT)	2020	MDV	Aggregate	25	Diesel	500.4352977	0.001404978	0.07866146	9.881%	0.38%	331.1870863	0.165737708	0.165737708	4.65311E-07	2.60517E-05
El Dorado (LT)	2020	MDV	Aggregate	30	Gasoline	468.0192422	0.01589499	0.02026871	3.122%	18.57%	5107.767874	2.39053365	2.39053365	8.11879E-05	0.000103528
El Dorado (LT)	2020	MDV	Aggregate	30	Diesel	432.220252	0.001116993	0.067939005	3.122%	0.38%	104.6520759	0.045232747	0.045232747	1.16896E-07	7.10996E-06
El Dorado (LT)	2020	MDV	Aggregate	35	Gasoline	433.7821662	0.013327361	0.019127446	29.790%	18.57%	48732.92593	21.13947417	21.13947417	0.000649481	0.000932136
El Dorado (LT)	2020	MDV	Aggregate	35	Diesel	392.180109	0.000934091	0.061645252	29.790%	0.38%	998.479569	0.391583826	0.391583826	9.32671E-07	6.15515E-05
El Dorado (LT)	2020	MDV	Aggregate	40	Gasoline	419.7478203	0.011730292	0.018399365	12.632%	18.57%	20664.03705	8.673684511	8.673684511	0.000242395	0.000380205
El Dorado (LT)	2020	MDV	Aggregate	40	Diesel	366.8305473	0.000815939	0.057660654	12.632%	0.38%	423.3814904	0.155309264	0.155309264	3.45454E-07	2.44125E-05
El Dorado (LT)	2020	MDV	Aggregate	45	Gasoline	421.004086	0.010836452	0.018039609	18.146%	18.57%	29685.5349	12.49773148	12.49773148	0.000321686	0.000535515
El Dorado (LT)	2020	MDV	Aggregate	45	Diesel	353.0214298	0.000742209	0.055490053	18.146%	0.38%	608.2212288	0.214715128	0.214715128	4.51427E-07	3.37502E-05
El Dorado (LT)	2020	MDV	Aggregate	50	Gasoline	433.1433082	0.010507109	0.018028714	10.003%	18.57%	16364.75974	7.088286172	7.088286172	0.000171946	0.000295036
El Dorado (LT)	2020	MDV	Aggregate	50	Diesel	354.7904106	0.000702592	0.055768112	10.003%	0.38%	335.2944225	0.118959246	0.118959246	2.35575E-07	1.86987E-05

El Dorado (LT)	2020	MH	Aggregate	5	Gasoline	4200.693518	0.197742475	0.08423367	0.002%	0.17%	0.027349673	0.000114888	0.000114888	5.40819E-09	2.30376E-09
El Dorado (LT)	2020	MH	Aggregate	5	Diesel	2125.049754	0.053216	0.334028228	0.002%	0.06%	0.009887024	2.10104E-05	2.10104E-05	5.26148E-10	3.30255E-09
El Dorado (LT)	2020	MH	Aggregate	10	Gasoline	3407.135993	0.129542232	0.074072627	0.011%	0.17%	0.174665162	0.000595108	0.000595108	2.26265E-08	1.29379E-08
El Dorado (LT)	2020	MH	Aggregate	10	Diesel	1929.55431	0.040251622	0.303299067	0.011%	0.06%	0.063142205	0.000121836	0.000121836	2.54158E-09	1.9151E-08
El Dorado (LT)	2020	MH	Aggregate	15	Gasoline	2785.063569	0.089733921	0.065811394	7.441%	0.17%	114.2808189	0.318279345	0.318279345	1.02549E-05	7.52098E-06
El Dorado (LT)	2020	MH	Aggregate	15	Diesel	1584.331351	0.020585113	0.249034825	7.441%	0.06%	41.31300626	0.065453491	0.065453491	8.50433E-07	1.02884E-05
El Dorado (LT)	2020	MH	Aggregate	20	Gasoline	2314.564126	0.065234362	0.059876442	0.207%	0.17%	3.176208331	0.007351538	0.007351538	2.07198E-07	1.9018E-07
El Dorado (LT)	2020	MH	Aggregate	20	Diesel	1300.132297	0.009268267	0.204362692	0.207%	0.06%	1.148212936	0.001492829	0.001492829	1.06419E-08	2.34652E-07
El Dorado (LT)	2020	MH	Aggregate	25	Gasoline	1978.19687	0.0499143	0.055373527	9.881%	0.17%	151.7566504	0.300204531	0.300204531	7.57483E-06	8.4033E-06
El Dorado (LT)	2020	MH	Aggregate	25	Diesel	1166.165829	0.006588673	0.183305029	9.881%	0.06%	54.86068009	0.06397665	0.06397665	3.61459E-07	1.00562E-05
El Dorado (LT)	2020	MH	Aggregate	30	Gasoline	1755.216398	0.040219978	0.05199038	3.122%	0.17%	47.95370702	0.084169133	0.084169133	1.9287E-06	2.49313E-06
El Dorado (LT)	2020	MH	Aggregate	30	Diesel	1094.62297	0.005391497	0.172059487	3.122%	0.06%	17.33547079	0.018975805	0.018975805	9.34641E-08	2.98273E-06
El Dorado (LT)	2020	MH	Aggregate	35	Gasoline	1626.920148	0.034009654	0.04978615	29.790%	0.17%	457.5236208	0.744354397	0.744354397	1.55602E-05	2.27783E-05
El Dorado (LT)	2020	MH	Aggregate	35	Diesel	1035.251267	0.004476176	0.162727083	29.790%	0.06%	165.3967515	0.171227197	0.171227197	7.40345E-07	2.69145E-05
El Dorado (LT)	2020	MH	Aggregate	40	Gasoline	1574.732745	0.030236206	0.048432857	12.632%	0.17%	194.0019991	0.305501301	0.305501301	5.86588E-06	9.39607E-06
El Dorado (LT)	2020	MH	Aggregate	40	Diesel	988.0507202	0.003807845	0.155307814	12.632%	0.06%	70.13255486	0.069294521	0.069294521	2.67054E-07	1.08921E-05
El Dorado (LT)	2020	MH	Aggregate	45	Gasoline	1580.153961	0.028366701	0.047316304	18.146%	0.17%	278.6993219	0.440387837	0.440387837	7.90578E-06	1.3187E-05
El Dorado (LT)	2020	MH	Aggregate	45	Diesel	953.0213289	0.003369635	0.149801681	18.146%	0.06%	100.7510004	0.096017852	0.096017852	3.39494E-07	1.50927E-05
El Dorado (LT)	2020	MH	Aggregate	50	Gasoline	1626.624315	0.027836838	0.047492936	10.003%	0.17%	153.6387153	0.24991247	0.24991247	4.27682E-06	7.29675E-06
El Dorado (LT)	2020	MH	Aggregate	50	Diesel	930.1630934	0.003152481	0.146208685	10.003%	0.06%	55.54105462	0.051662239	0.051662239	1.75092E-07	8.12058E-06
El Dorado (LT)	2020	MH	Aggregate	55	Gasoline	1693.951603	0.028633381	0.048544265	8.765%	0.17%	134.618955	0.228037995	0.228037995	3.8546E-06	6.53498E-06
El Dorado (LT)	2020	MH	Aggregate	55	Diesel	919.4760138	0.003151118	0.144528825	8.765%	0.06%	48.66532969	0.044746603	0.044746603	1.5335E-07	7.03354E-06
El Dorado (LT)	2020	MH	Aggregate	60	Gasoline	1763.875889	0.031039931	0.049806461	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	MH	Aggregate	60	Diesel	920.96009	0.003376514	0.144762101	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	MH	Aggregate	65	Gasoline	1820.10876	0.035676503	0.050705227	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	MH	Aggregate	65	Diesel	934.6153221	0.003822542	0.146908513	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	5	Diesel	3794.655748	0.168822605	0.59646704	0.002%	0.09%	0.014199043	5.38805E-05	5.38805E-05	2.39712E-09	8.46926E-09
El Dorado (LT)	2020	Motor Coach	Aggregate	10	Diesel	3232.891326	0.127932247	0.508165496	0.011%	0.09%	0.090680359	0.00029316	0.00029316	1.16009E-08	4.60806E-08
El Dorado (LT)	2020	Motor Coach	Aggregate	15	Diesel	2594.318758	0.067358254	0.407790781	7.441%	0.09%	59.33081106	0.153923036	0.153923036	3.99642E-06	2.41946E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	20	Diesel	2205.107577	0.032788511	0.346612203	0.207%	0.09%	1.648982026	0.003636183	0.003636183	5.40677E-08	5.71557E-07
El Dorado (LT)	2020	Motor Coach	Aggregate	25	Diesel	1947.572236	0.02356542	0.306131234	9.881%	0.09%	78.78701987	0.153443412	0.153443412	1.85665E-06	2.41192E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	30	Diesel	1751.947819	0.018596375	0.2753818	3.122%	0.09%	24.89597429	0.043616448	0.043616448	4.62975E-07	6.8559E-06
El Dorado (LT)	2020	Motor Coach	Aggregate	35	Diesel	1600.018591	0.01480255	0.251500641	29.790%	0.09%	237.5310901	0.38005416	0.38005416	3.51607E-06	5.97392E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	40	Diesel	1490.146228	0.01210914	0.234230236	12.632%	0.09%	100.7194038	0.15008664	0.15008664	1.21963E-06	2.35915E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	45	Diesel	1421.370109	0.010448734	0.223419587	18.146%	0.09%	144.6914449	0.205660095	0.205660095	1.51184E-06	3.23269E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	50	Diesel	1393.09091	0.009756216	0.218974491	10.003%	0.09%	79.76412554	0.111118678	0.111118678	7.78196E-07	1.74663E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	55	Diesel	1404.921838	0.009965018	0.220834148	8.765%	0.09%	69.88969679	0.098189561	0.098189561	6.96452E-07	1.5434E-05
El Dorado (LT)	2020	Motor Coach	Aggregate	60	Diesel	1458.299223	0.010507275	0.22922433	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	65	Diesel	1549.799588	0.010631193	0.243606913	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	70	Diesel	1549.799588	0.010706493	0.243606913	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	75	Diesel	1549.799588	0.010800351	0.243606913	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	80	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	85	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	90	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2020	OBUS	Aggregate	5	Gasoline	4137.580464	0.259185025	0.114874466	0.002%	0.06%	0.009134654	3.77954E-05	3.77954E-05	2.36757E-09	1.04934E-09
El Dorado (LT)	2020	OBUS	Aggregate	10	Gasoline	3358.231517	0.165540172	0.100210375	0.011%	0.06%	0.05833729	0.00019591	0.00019591	9.65716E-09	5.846E-09
El Dorado (LT)	2020	OBUS	Aggregate	15	Gasoline	2746.58778	0.112170767	0.088281758	7.441%	0.06%	38.16922149	0.104835117	0.104835117	4.28147E-06	3.36965E-06
El Dorado (LT)	2020	OBUS	Aggregate	20	Gasoline	2283.433163	0.079685173	0.079602243	0.207%	0.06%	1.060837684	0.002422352	0.002422352	8.4533E-08	8.44451E-08
El Dorado (LT)	2020	OBUS	Aggregate	25	Gasoline	1952.073878	0.059664201	0.07294854	9.881%	0.06%	50.68596161	0.098942742	0.098942742	3.02414E-06	3.69747E-06
El Dorado (LT)	2020	OBUS	Aggregate	30	Gasoline	1732.260749	0.047151466	0.067885136	3.122%	0.06%	16.01629811	0.027744405	0.027744405	7.55192E-07	1.08727E-06
El Dorado (LT)	2020	OBUS	Aggregate	35	Gasoline	1605.589642	0.039101085	0.064454355	29.790%	0.06%	152.8105992	0.245351115	0.245351115	5.97506E-06	9.84931E-06
El Dorado (LT)	2020	OBUS	Aggregate	40	Gasoline	1553.82532	0.034151337	0.062217686	12.632%	0.06%	64.79569661	0.100681194	0.100681194	2.21286E-06	4.03144E-06
El Dorado (LT)	2020	OBUS	Aggregate	45	Gasoline	1558.795976	0.031670858	0.060397291	18.146%	0.06%	93.08417847	0.145099243	0.145099243	2.94806E-06	5.62203E-06
El Dorado (LT)	2020	OBUS	Aggregate	50	Gasoline	1603.951537	0.030639296	0.060297794	10.003%	0.06%	51.31456186	0.08230607	0.08230607	1.57224E-06	3.09415E-06
El Dorado (LT)	2020	OBUS	Aggregate	55	Gasoline	1669.333715	0.031070543	0.061388076	8.765%	0.06%	44.96205713	0.075056678	0.075056678	1.397E-06	2.76013E-06
El Dorado (LT)	2020	OBUS	Aggregate	60	Gasoline	1736.889877	0.033410063	0.062859351	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	OBUS	Aggregate	65	Gasoline	1790.475803	0.038565411	0.064027486	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	PTO	Aggregate	20	Diesel	2101.708496	0.038623513	0.330359308	0.207%	0.01%	0.200875194	0.000422181	0.000422181	7.75851E-09	6.6361E-08
El Dorado (LT)	2020	SBUS	Aggregate	5	Gasoline	1812.33624	0.016290079	0.020894588	0.002%	0.00%	0.000238232	4.31757E-07	4.31757E-07	3.88082E-12	4.97776E-12
El Dorado (LT)	2020	SBUS	Aggregate	5	Diesel	2467.524979	0.052694552	0.387860564	0.002%	0.15%	0.023947508	5.90911E-05	5.90911E-05	1.2619E-09	9.28829E-09
El Dorado (LT)	2020	SBUS	Aggregate	10	Gasoline	1471.213271	0.010275724	0.018089411	0.011%	0.00%	0.00152144	2.23836E-06	2.23836E-06	1.56339E-11	2.75219E-11
El Dorado (LT)	2020	SBUS	Aggregate	10	Diesel	2202.448166	0.039894119	0.346194181	0.011%	0.15%	0.152937678	0.000336837	0.000336837	6.10131E-09	5.29461E-08
El Dorado (LT)	2020	SBUS	Aggregate	15	Gasoline	1203.149036	0.00682078	0.015971974	7.441%	0.00%	0.995455287	0.001197681	0.001197681	6.78978E-09	1.58994E-08
El Dorado (LT)	2020	SBUS	Aggregate	15	Diesel	1795.969375	0.02049494	0.282301375	7.441%	0.15%	100.0648491	0.179713404	0.179713404	2.05082E-06	2.82484E-05
El Dorado (LT)	2020	SBUS	Aggregate	20	Gasoline	1000.100134	0.00477757	0.01432416	0.207%	0.00%	0.027666702	2.76695E-05	2.76695E-05	1.3218E-10	3.96302E-10
El Dorado (LT)	2020	SBUS	Aggregate	20	Diesel	1485.087471	0.009196125	0.233435069	0.207%	0.15%	2.78110369	0.004130182	0.004130182	2.55754E-08	6.49207E-07
El Dorado (LT)	2020	SBUS	Aggregate	25	Gasoline	854.8337094	0.003527849	0.013067008	9.881%	0.00%	1.321892522	0.001129998	0.001129998	4.66344E-09	1.72732E-08
El Dorado (LT)	2020	SBUS	Aggregate	25	Diesel	1326.039089	0.00638229	0.208434879	9.881%	0.15%	132.8788721	0.176202578	0.176202578	8.48072E-07	2.76966E-05
El Dorado (LT)	2020	SBUS	Aggregate	30	Gasoline	758.5185007	0.002748299	0.012111584	3.122%	0.00%	0.41770589	0.000316838	0.000316838	1.14798E-09	5.05908E-09
El Dorado (LT)	2020	SBUS	Aggregate	30	Diesel	1231.068282	0.004994135	0.19350679	3.122%	0.15%	41.98850253	0.051690714	0.051690714	2.09696E-07	8.12506E-06
El Dorado (LT)	2020	SBUS	Aggregate	35	Gasoline	703.1272818	0.00225402	0.01144111	29.790%	0.00%	3.985308394	0.002802179	0.002802179	8.98296E-09	4.55964E-08
El Dorado (LT)	2020	SBUS	Aggregate	35	Diesel	1154.02131	0.003952503	0.181396079	29.790%	0.15%	400.6099404	0.462312408	0.462312408	1.58341E-06	7.26691E-05
El Dorado (LT)	2020	SBUS	Aggregate	40	Gasoline	680.6360214	0.001951786	0.010969323	12.632%	0.00%	1.689875146	0.00115019	0.00115019	3.29827E-09	1.85368E-08
El Dorado (LT)	2020	SBUS	Aggregate	40	Diesel	1094.794176	0.003256541	0.172086399	12.632%	0.15%	169.8691079	0.18597171	0.18597171	5.53186E-07	2.92322E-05
El Dorado (LT)	2020	SBUS	Aggregate	45	Gasoline	683.0204912	0.001784429	0.010673929	18.146%	0.00%	2.427640228	0.001658128	0.001658128	4.33195E-09	2.59125E-08
El Dorado (LT)	2020	SBUS	Aggregate	45	Diesel	1053.325886	0.002905437	0.165568161	18.146%	0.15%	244.0305017	0.257043644	0.257043644	7.09015E-07	4.04037E-05
El Dorado (LT)	2020	SBUS	Aggregate	50	Gasoline	703.0600559	0.001727659	0.01049642	10.003%	0.00%	1.338286449	0.000940896	0.000940896	2.3121E-09	1.40472E-08
El Dorado (LT)	2020	SBUS	Aggregate	50	Diesel	1029.578865	0.002898365	0.16183546	10.003%	0.15%	134.5268174	0.138505968	0.138505968	3.89908E-07	2.17712E-05
El Dorado (LT)	2020	SBUS	Aggregate	55	Gasoline	731.9240816	0.001734809	0.010745136	8.765%	0.00%	1.172612794	0.000858264	0.000858264	2.03426E-09	1.25999E-08
El Dorado (LT)	2020	SBUS	Aggregate	55	Diesel	1023.529729	0.003234444	0.16088462	8.765%	0.15%	117.8730214	0.120646542	0.120646542	3.81254E-07	1.8964E-05
El Dorado (LT)	2020	SBUS	Aggregate	60	Gasoline	761.5980039	0.00186981	0.010907109	0.000%	0.00%	0	0	0	0	0

El Dorado (LT)	2020	SBUS	Aggregate	60	Diesel	1033.150958	0.00353586	0.162396943	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	65	Diesel	1050.003748	0.003546167	0.165045967	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	70	Diesel	1050.003748	0.003551027	0.165045967	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	75	Diesel	1050.003748	0.003557086	0.165045967	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	80	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	85	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	90	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	5	Diesel	2465.184856	0.036415039	0.38749273	0.002%	0.02%	0.002847684	7.02007E-06	7.02007E-06	1.03699E-10	1.10346E-09
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	10	Diesel	2071.881305	0.027440355	0.325670889	0.011%	0.02%	0.018186365	3.768E-05	3.768E-05	4.9904E-10	5.92277E-09
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	15	Diesel	1648.724634	0.014689435	0.259156553	7.441%	0.02%	11.89906848	0.019618287	0.019618287	1.74791E-07	3.08372E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	20	Diesel	1405.278502	0.007564051	0.220890211	0.207%	0.02%	0.33071097	0.000464741	0.000464741	2.50151E-09	7.30508E-08
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	25	Diesel	1234.772859	0.00566206	0.194089098	9.881%	0.02%	15.80110111	0.019510771	0.019510771	8.94668E-08	3.06682E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	30	Diesel	1092.784011	0.004638927	0.171770429	3.122%	0.02%	4.993002752	0.005456274	0.005456274	2.31622E-08	8.5765E-07
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	35	Diesel	982.8555003	0.00383284	0.154491198	29.790%	0.02%	47.63795836	0.046821229	0.046821229	1.82589E-07	7.35965E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	40	Diesel	903.8406949	0.003223411	0.142071171	12.632%	0.02%	20.19974212	0.018257349	0.018257349	6.51121E-08	2.8698E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	45	Diesel	854.8513104	0.002795257	0.134370721	18.146%	0.02%	29.01853825	0.024806535	0.024806535	8.11143E-08	3.89924E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	50	Diesel	835.1343274	0.002536589	0.131271486	10.003%	0.02%	15.99706417	0.013359697	0.013359697	4.0578E-08	2.09996E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	55	Diesel	849.0778345	0.002438172	0.133463211	8.765%	0.02%	14.01670183	0.011901271	0.011901271	3.41751E-08	1.87071E-06
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	60	Diesel	892.5191429	0.002470604	0.14029158	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	65	Diesel	964.0899271	0.002528174	0.151541511	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	70	Diesel	964.0899271	0.002570862	0.151541511	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	75	Diesel	964.0899271	0.002624071	0.151541511	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	5	Diesel	2484.472229	0.073279953	0.390524436	0.002%	0.00%	0.000378521	9.40424E-07	9.40424E-07	2.7738E-11	1.47822E-10
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	10	Diesel	2110.928787	0.055227528	0.331808609	0.011%	0.00%	0.002417372	5.1029E-06	5.1029E-06	1.33506E-10	8.02105E-10
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	15	Diesel	1690.980446	0.029043005	0.265798578	7.441%	0.00%	1.581650847	0.002674541	0.002674541	4.59359E-08	4.20401E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	20	Diesel	1438.067367	0.014573884	0.226044164	0.207%	0.00%	0.043958843	6.32158E-05	6.32158E-05	6.40651E-10	9.93664E-09
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	25	Diesel	1268.724648	0.010977444	0.199425847	9.881%	0.00%	2.100317769	0.002664725	0.002664725	2.30561E-08	4.18858E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	30	Diesel	1138.697603	0.009072521	0.178987406	3.122%	0.00%	0.663681115	0.000755732	0.000755732	6.02126E-09	1.18791E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	35	Diesel	1037.728265	0.007552348	0.163116432	29.790%	0.00%	6.332144178	0.006571045	0.006571045	4.78226E-08	1.03288E-06
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	40	Diesel	964.908474	0.006384719	0.151670175	12.632%	0.00%	2.684994989	0.002590774	0.002590774	1.71429E-08	4.07234E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	45	Diesel	919.705827	0.005545248	0.144564948	18.146%	0.00%	3.857209133	0.003547498	0.003547498	2.13892E-08	5.57617E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	50	Diesel	901.7844494	0.005015145	0.141747957	10.003%	0.00%	2.126365617	0.001917523	0.001917523	1.0664E-08	3.01408E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	55	Diesel	910.9207279	0.004779576	0.143184053	8.765%	0.00%	1.863131417	0.001697165	0.001697165	8.90498E-09	2.66771E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	60	Diesel	948.404533	0.004794259	0.149075985	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	65	Diesel	1011.792997	0.00485228	0.159039769	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	70	Diesel	1011.792997	0.004886453	0.159039769	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	75	Diesel	1011.792997	0.004929048	0.159039769	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	5	Diesel	2448.461483	0.132658568	0.384864048	0.002%	0.15%	0.023428958	5.73649E-05	5.73649E-05	3.10805E-09	9.01696E-09
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	10	Diesel	2113.744642	0.101124833	0.332251222	0.011%	0.15%	0.149626019	0.000316271	0.000316271	1.51309E-08	4.97134E-08
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	15	Diesel	1706.161797	0.053654258	0.268184875	7.441%	0.15%	97.89808	0.167029964	0.167029964	5.25265E-06	2.62548E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	20	Diesel	1441.684897	0.025828965	0.226612789	0.207%	0.15%	2.720882648	0.003922655	0.003922655	7.02776E-08	6.16587E-07
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	25	Diesel	1278.064068	0.018674271	0.200893873	9.881%	0.15%	130.0015597	0.166150322	0.166150322	2.42768E-06	2.61165E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	30	Diesel	1160.28844	0.015183913	0.182381185	3.122%	0.15%	41.07929825	0.047663835	0.047663835	6.23744E-07	7.49209E-06
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	35	Diesel	1067.952407	0.012472039	0.167867246	29.790%	0.15%	391.9352735	0.418568219	0.418568219	4.88823E-06	6.57931E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	40	Diesel	1000.070656	0.010506946	0.15719718	12.632%	0.15%	166.1908219	0.166202564	0.166202564	1.74616E-06	2.61247E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	45	Diesel	956.0655218	0.009263186	0.150280186	18.146%	0.15%	238.746351	0.228257155	0.228257155	2.21155E-06	3.58788E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	50	Diesel	935.5738916	0.008719384	0.147059187	10.003%	0.15%	131.6138209	0.123134455	0.123134455	1.14759E-06	1.9355E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	55	Diesel	938.3564163	0.008856637	0.147496561	8.765%	0.15%	115.3206404	0.108211863	0.108211863	1.02135E-06	1.70094E-05
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	60	Diesel	965.2555949	0.009204938	0.151724738	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	65	Diesel	1012.273602	0.009250204	0.159115313	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	70	Diesel	1012.273602	0.009276682	0.159115313	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	75	Diesel	1012.273602	0.009309685	0.159115313	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	5	Diesel	2466.877898	0.120487155	0.387758852	0.002%	0.25%	0.039746221	9.80491E-05	9.80491E-05	4.78891E-09	1.54119E-08
El Dorado (LT)	2020	T6 instate construction small	Aggregate	10	Diesel	2114.529119	0.090856485	0.332374531	0.011%	0.25%	0.253834119	0.00053674	0.00053674	2.30625E-08	8.4368E-08
El Dorado (LT)	2020	T6 instate construction small	Aggregate	15	Diesel	1699.613258	0.047012649	0.267155536	7.441%	0.25%	166.0798907	0.282271584	0.282271584	7.80786E-06	4.43692E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	20	Diesel	1438.243412	0.022533079	0.226071836	0.207%	0.25%	4.615860627	0.006638731	0.006638731	1.0401E-07	1.04352E-06
El Dorado (LT)	2020	T6 instate construction small	Aggregate	25	Diesel	1271.737099	0.016649857	0.199899362	9.881%	0.25%	220.542066	0.280471527	0.280471527	3.67199E-06	4.40862E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	30	Diesel	1148.630846	0.01362768	0.180548773	3.122%	0.25%	69.68926627	0.080047241	0.080047241	9.49703E-07	1.25823E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	35	Diesel	1052.484047	0.011245512	0.165435836	29.790%	0.25%	664.9013689	0.699798084	0.699798084	7.47716E-06	0.000109999
El Dorado (LT)	2020	T6 instate construction small	Aggregate	40	Diesel	982.5018433	0.009474765	0.154435608	12.632%	0.25%	281.9355961	0.277002243	0.277002243	2.67127E-06	4.35409E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	45	Diesel	938.2182319	0.008292487	0.147474841	18.146%	0.25%	405.022937	0.379999904	0.379999904	3.35865E-06	5.97307E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	50	Diesel	919.3400842	0.007679393	0.144507459	10.003%	0.25%	223.2771981	0.205267678	0.205267678	1.71463E-06	3.22652E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	55	Diesel	925.6738035	0.007618421	0.145503031	8.765%	0.25%	195.6365166	0.181095598	0.181095598	1.49044E-06	2.84657E-05
El Dorado (LT)	2020	T6 instate construction small	Aggregate	60	Diesel	957.8921261	0.007820456	0.150567303	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	65	Diesel	1012.600979	0.007870697	0.159166773	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	70	Diesel	1012.600979	0.007898446	0.159166773	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	75	Diesel	1012.600979	0.007933034	0.159166773	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	80	Diesel	0	0	0	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	85	Diesel	0	0	0	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate construction small	Aggregate	90	Diesel	0	0	0	0.000%	0.25%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	5	Diesel	2320.346741	0.104118533	0.364726195	0.002%	0.17%	0.026485584	6.14557E-05	6.14557E-05	2.75764E-09	9.65999E-09
El Dorado (LT)	2020	T6 instate heavy	Aggregate	10	Diesel	1972.287591	0.078340181	0.310016144	0.011%	0.17%	0.169146771	0.000333606	0.000333606	1.3251E-08	5.24382E-08

El Dorado (LT)	2020	T6 instate heavy	Aggregate	15	Diesel	1572.899612	0.039825471	0.247237915	7.441%	0.17%	110.6702176	0.174073142	0.174073142	4.40749E-06	2.73619E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	20	Diesel	1327.155642	0.018018372	0.208610385	0.207%	0.17%	3.07585884	0.004082143	0.004082143	5.5422E-08	6.41656E-07
El Dorado (LT)	2020	T6 instate heavy	Aggregate	25	Diesel	1168.159784	0.012832596	0.18361845	9.881%	0.17%	146.9620334	0.171675137	0.171675137	1.8859E-06	2.69849E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	30	Diesel	1043.74462	0.010234752	0.164062119	3.122%	0.17%	46.43865208	0.048470093	0.048470093	4.75288E-07	7.61882E-06
El Dorado (LT)	2020	T6 instate heavy	Aggregate	35	Diesel	946.5264334	0.008248316	0.148780774	29.790%	0.17%	443.0685669	0.41937611	0.41937611	3.65457E-06	6.59201E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	40	Diesel	876.1636536	0.006872187	0.137720725	12.632%	0.17%	187.8726777	0.164607212	0.164607212	1.2911E-06	2.5874E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	45	Diesel	832.329077	0.006105514	0.13083054	18.146%	0.17%	269.8940635	0.224640677	0.224640677	1.64784E-06	3.53104E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	50	Diesel	814.7030392	0.005947618	0.128059972	10.003%	0.17%	148.7846361	0.121215295	0.121215295	8.84914E-07	1.90534E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	55	Diesel	826.5697119	0.006397941	0.129925248	8.765%	0.17%	130.3657883	0.107756412	0.107756412	8.34073E-07	1.69378E-05
El Dorado (LT)	2020	T6 instate heavy	Aggregate	60	Diesel	863.6852795	0.006866482	0.135759298	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	65	Diesel	923.302065	0.006906781	0.145130227	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	70	Diesel	923.302065	0.006951829	0.145130227	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	75	Diesel	923.302065	0.007007979	0.145130227	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	5	Diesel	2447.036151	0.163142035	0.384640006	0.002%	0.38%	0.060278273	0.000147503	0.000147503	9.83392E-09	2.31854E-08
El Dorado (LT)	2020	T6 instate small	Aggregate	10	Diesel	2105.589826	0.122890214	0.330969399	0.011%	0.38%	0.384959428	0.000810567	0.000810567	4.73077E-08	1.2741E-07
El Dorado (LT)	2020	T6 instate small	Aggregate	15	Diesel	1691.577759	0.062781296	0.265892467	7.441%	0.38%	251.8732308	0.426063155	0.426063155	1.58129E-05	6.69712E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	20	Diesel	1423.751124	0.029018698	0.22379385	0.207%	0.38%	7.000316076	0.009966708	0.009966708	2.0314E-07	1.56663E-06
El Dorado (LT)	2020	T6 instate small	Aggregate	25	Diesel	1258.863673	0.021098427	0.197875839	9.881%	0.38%	334.4694078	0.421051387	0.421051387	7.05678E-06	6.61834E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	30	Diesel	1139.841097	0.017127191	0.179167147	3.122%	0.38%	105.6892594	0.120468961	0.120468961	1.81016E-06	1.8936E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	35	Diesel	1046.453058	0.014032149	0.164487848	29.790%	0.38%	1008.375278	1.055217393	1.055217393	1.41497E-05	0.000165865
El Dorado (LT)	2020	T6 instate small	Aggregate	40	Diesel	978.3423303	0.011800516	0.15378179	12.632%	0.38%	427.5775301	0.418317197	0.418317197	5.04564E-06	6.57536E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	45	Diesel	935.2994829	0.010422173	0.147016054	18.146%	0.38%	614.2491739	0.574506935	0.574506935	6.40181E-06	9.03045E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	50	Diesel	917.192672	0.009888775	0.144169915	10.003%	0.38%	338.6174509	0.310577445	0.310577445	3.34851E-06	4.88184E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	55	Diesel	923.9346212	0.010193114	0.145229656	8.765%	0.38%	296.6981812	0.274129722	0.274129722	3.02428E-06	4.30894E-05
El Dorado (LT)	2020	T6 instate small	Aggregate	60	Diesel	955.2045084	0.010676995	0.150144847	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	65	Diesel	1006.889688	0.010717633	0.158269037	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	70	Diesel	1006.889688	0.010743859	0.158269037	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	75	Diesel	1006.889688	0.010776549	0.158269037	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	80	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	85	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 instate small	Aggregate	90	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	5	Diesel	2467.548547	0.038435569	0.387864269	0.002%	0.01%	0.001766961	4.36006E-06	4.36006E-06	6.79142E-11	6.85341E-10
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	10	Diesel	2074.309071	0.028887098	0.326052499	0.011%	0.01%	0.011284472	2.34075E-05	2.34075E-05	3.25976E-10	3.67933E-09
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	15	Diesel	1651.020742	0.015345671	0.259517469	7.441%	0.01%	7.383262072	0.012189919	0.012189919	1.13301E-07	1.91609E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	20	Diesel	1407.376644	0.007863895	0.22122001	0.207%	0.01%	0.205203102	0.000288798	0.000288798	1.6137E-09	4.5395E-08
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	25	Diesel	1236.775245	0.005898636	0.194403845	9.881%	0.01%	9.804437276	0.012125885	0.012125885	5.78328E-08	1.90602E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	30	Diesel	1094.7246	0.004826533	0.172075462	3.122%	0.01%	3.098112085	0.00339158	0.00339158	1.49531E-08	5.33109E-07
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	35	Diesel	984.7435069	0.003981492	0.154787966	29.790%	0.01%	29.5589131	0.029107948	0.029107948	1.17689E-07	4.57536E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	40	Diesel	905.6597193	0.003342492	0.142357096	12.632%	0.01%	12.53375339	0.011351316	0.011351316	4.1894E-08	1.78427E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	45	Diesel	856.5695431	0.002893522	0.134640804	18.146%	0.01%	18.00573493	0.015423164	0.015423164	5.21E-08	2.42431E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	50	Diesel	836.7099486	0.002622129	0.131519152	10.003%	0.01%	9.926030543	0.008305209	0.008305209	2.60273E-08	1.30546E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	55	Diesel	850.4935268	0.002518347	0.133685739	8.765%	0.01%	8.697234005	0.007396941	0.007396941	2.19027E-08	1.1627E-06
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	60	Diesel	893.7613534	0.002552624	0.140486838	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	65	Diesel	965.1400432	0.002612957	0.151706574	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	70	Diesel	965.1400432	0.002654545	0.151706574	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	75	Diesel	965.1400432	0.002706383	0.151706574	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	5	Diesel	2487.038072	0.07306562	0.390927751	0.002%	0.00%	0.000243197	6.04841E-07	6.04841E-07	1.77694E-11	9.50725E-11
El Dorado (LT)	2020	T6 OOS small	Aggregate	10	Diesel	2111.495936	0.055042332	0.331897757	0.011%	0.00%	0.001553148	3.27947E-06	3.27947E-06	8.54889E-11	5.15486E-10
El Dorado (LT)	2020	T6 OOS small	Aggregate	15	Diesel	1690.277587	0.028879316	0.265688098	7.441%	0.00%	1.016201539	0.001717663	0.001717663	2.93472E-08	2.69993E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	20	Diesel	1437.167788	0.014421508	0.225902762	0.207%	0.00%	0.028243303	4.05904E-05	4.05904E-05	4.07311E-10	6.38024E-09
El Dorado (LT)	2020	T6 OOS small	Aggregate	25	Diesel	1267.426621	0.01085193	0.199221815	9.881%	0.00%	1.349442043	0.001710319	0.001710319	1.4644E-08	2.68838E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	30	Diesel	1136.857197	0.008969806	0.17869812	3.122%	0.00%	0.426411285	0.000484769	0.000484769	3.82483E-09	7.61989E-08
El Dorado (LT)	2020	T6 OOS small	Aggregate	35	Diesel	1035.48597	0.007468099	0.162763975	29.790%	0.00%	4.068366084	0.004212736	0.004212736	3.0383E-08	6.62183E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	40	Diesel	962.4666703	0.006316982	0.151286357	12.632%	0.00%	1.725093782	0.001660345	0.001660345	1.08974E-08	2.60983E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	45	Diesel	917.3031778	0.005493873	0.144187285	18.146%	0.00%	2.478234603	0.002273292	0.002273292	1.36151E-08	3.5733E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	50	Diesel	899.6825043	0.004981377	0.141417561	10.003%	0.00%	1.366177635	0.001229126	0.001229126	6.80545E-09	1.93202E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	55	Diesel	909.3962655	0.004765763	0.142944429	8.765%	0.00%	1.197051181	0.001088594	0.001088594	5.70486E-09	1.71112E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	60	Diesel	947.616657	0.004791326	0.148952142	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	65	Diesel	1011.944385	0.004849461	0.159063565	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	70	Diesel	1011.944385	0.004883894	0.159063565	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	75	Diesel	1011.944385	0.004926813	0.159063565	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 OOS small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	5	Diesel	2402.909623	0.017995897	0.37770393	0.002%	0.15%	0.023967278	5.75912E-05	5.75912E-05	4.31313E-10	9.05254E-09
El Dorado (LT)	2020	T6 Public	Aggregate	10	Diesel	2081.751781	0.013898045	0.32722239	0.011%	0.15%	0.153063936	0.000318641	0.000318641	2.12729E-09	5.00859E-08
El Dorado (LT)	2020	T6 Public	Aggregate	15	Diesel	1684.424054	0.008055502	0.264768004	7.441%	0.15%	100.147458	0.168690787	0.168690787	8.06738E-07	2.65158E-05
El Dorado (LT)	2020	T6 Public	Aggregate	20	Diesel	1423.248367	0.00449624	0.223714823	0.207%	0.15%	2.783399642	0.003961469	0.003961469	1.25148E-08	6.22688E-07
El Dorado (LT)	2020	T6 Public	Aggregate	25	Diesel	1263.524708	0.003289785	0.198608488	9.881%	0.15%	132.9885708	0.168034345	0.168034345	4.37504E-07	2.64127E-05
El Dorado (LT)	2020	T6 Public	Aggregate	30	Diesel	1149.888632	0.002626834	0.18074648	3.122%	0.15%	42.0231663	0.048321961	0.048321961	1.10388E-07	7.59554E-06
El Dorado (LT)	2020	T6 Public	Aggregate	35	Diesel	1060.611507	0.00211965	0.166713359	29.790%	0.15%	400.9406655	0.425242283	0.425242283	8.49854E-07	6.68422E-05
El Dorado (LT)	2020	T6 Public	Aggregate	40	Diesel	994.5862956	0.001745119	0.156335115	12.632%	0.15%	170.009344	0.169088964	0.169088964	2.96687E-07	2.65784E-05
El Dorado (LT)	2020	T6 Public	Aggregate	45	Diesel	951.1640074	0.001486157	0.149509736	18.146%	0.15%	244.2319621	0.232304652	0.232304652	3.62967E-07	3.65151E-05
El Dorado (LT)	2020	T6 Public	Aggregate	50	Diesel	929.9352059	0.001330105	0.146172864	10.003%	0.15%	134.6378765	0.125204501	0.125204501	1.79083E-07	1.96804E-05
El Dorado (LT)	2020	T6 Public	Aggregate	55	Diesel	930.6272792	0.001267556	0.146281649	8.765%	0.15%	117.9703319	0.109786409	0.109786409	1.49534E-07	1.72569E-05

El Dorado (LT)	2020	T6 Public	Aggregate	60	Diesel	954.4756538	0.001278899	0.150030281	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	65	Diesel	997.1358133	0.001304073	0.156735864	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	70	Diesel	997.1358133	0.001334651	0.156735864	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	75	Diesel	997.1358133	0.001372764	0.156735864	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	5	Diesel	2482.55968	0.008709459	0.39022381	0.002%	0.01%	0.001035786	2.5714E-06	2.5714E-06	9.02113E-12	4.04188E-10
El Dorado (LT)	2020	T6 utility	Aggregate	10	Diesel	2097.074166	0.006507438	0.329630855	0.011%	0.01%	0.006614911	1.3872E-05	1.3872E-05	4.30461E-11	2.18048E-09
El Dorado (LT)	2020	T6 utility	Aggregate	15	Diesel	1678.21746	0.004007807	0.263792414	7.441%	0.01%	4.328038154	0.007263389	0.007263389	1.73459E-08	1.1417E-06
El Dorado (LT)	2020	T6 utility	Aggregate	20	Diesel	1434.908571	0.002621918	0.225547645	0.207%	0.01%	0.120289222	0.000172604	0.000172604	3.15388E-10	2.7131E-08
El Dorado (LT)	2020	T6 utility	Aggregate	25	Diesel	1264.88441	0.001961462	0.198822215	9.881%	0.01%	5.747321197	0.007269697	0.007269697	1.12732E-08	1.1427E-06
El Dorado (LT)	2020	T6 utility	Aggregate	30	Diesel	1130.6558	0.001513577	0.177723347	3.122%	0.01%	1.816100685	0.002053385	0.002053385	2.74881E-09	3.22763E-07
El Dorado (LT)	2020	T6 utility	Aggregate	35	Diesel	1026.887707	0.001178071	0.161412447	29.790%	0.01%	17.32731446	0.017793206	0.017793206	2.04128E-08	2.79684E-06
El Dorado (LT)	2020	T6 utility	Aggregate	40	Diesel	952.3644036	0.000932919	0.149698422	12.632%	0.01%	7.347235187	0.006997245	0.006997245	6.85437E-09	1.09987E-06
El Dorado (LT)	2020	T6 utility	Aggregate	45	Diesel	906.3731902	0.000761883	0.142469244	18.146%	0.01%	10.55488847	0.009566668	0.009566668	8.04159E-09	1.50375E-06
El Dorado (LT)	2020	T6 utility	Aggregate	50	Diesel	888.4639646	0.000652986	0.139654163	10.003%	0.01%	5.818598675	0.005169615	0.005169615	3.79946E-09	8.12592E-07
El Dorado (LT)	2020	T6 utility	Aggregate	55	Diesel	898.3361806	0.000597389	0.141205938	8.765%	0.01%	5.098283149	0.004579972	0.004579972	3.04566E-09	7.19908E-07
El Dorado (LT)	2020	T6 utility	Aggregate	60	Diesel	938.2008664	0.000610464	0.147472111	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	65	Diesel	1006.40976	0.000671279	0.158193599	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	70	Diesel	1006.40976	0.000703443	0.158193599	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2020	T6TS	Aggregate	5	Gasoline	4164.450316	0.396458604	0.154183193	0.002%	0.16%	0.024572656	0.000102332	0.000102332	9.74204E-09	3.78869E-09
El Dorado (LT)	2020	T6TS	Aggregate	10	Gasoline	3378.646792	0.254967011	0.134660407	0.011%	0.16%	0.156930104	0.000530211	0.000530211	4.0012E-08	2.11323E-08
El Dorado (LT)	2020	T6TS	Aggregate	15	Gasoline	2762.718313	0.173610364	0.11878004	7.441%	0.16%	102.6770343	0.283667723	0.283667723	1.78258E-05	1.2196E-05
El Dorado (LT)	2020	T6TS	Aggregate	20	Gasoline	2296.801512	0.124135903	0.107246063	0.207%	0.16%	2.853704189	0.006554392	0.006554392	3.54247E-07	3.06049E-07
El Dorado (LT)	2020	T6TS	Aggregate	25	Gasoline	1963.563533	0.09353461	0.098416775	9.881%	0.16%	136.3476648	0.267727302	0.267727302	1.27532E-05	1.34189E-05
El Dorado (LT)	2020	T6TS	Aggregate	30	Gasoline	1742.462234	0.074325508	0.091709379	3.122%	0.16%	43.08460917	0.075073304	0.075073304	3.20229E-06	3.95126E-06
El Dorado (LT)	2020	T6TS	Aggregate	35	Gasoline	1614.978188	0.062049906	0.087188876	29.790%	0.16%	411.0678322	0.663865583	0.663865583	2.55067E-05	3.58405E-05
El Dorado (LT)	2020	T6TS	Aggregate	40	Gasoline	1562.748685	0.05454608	0.084264554	12.632%	0.16%	174.3035279	0.272392609	0.272392609	9.50757E-06	1.46876E-05
El Dorado (LT)	2020	T6TS	Aggregate	45	Gasoline	1567.486153	0.050713297	0.08187954	18.146%	0.16%	250.4008993	0.392499942	0.392499942	1.26987E-05	2.05027E-05
El Dorado (LT)	2020	T6TS	Aggregate	50	Gasoline	1612.799728	0.049361019	0.081813992	10.003%	0.16%	138.0386296	0.222628664	0.222628664	6.81373E-06	1.12935E-05
El Dorado (LT)	2020	T6TS	Aggregate	55	Gasoline	1678.73845	0.050429902	0.083346614	8.765%	0.16%	120.9500876	0.203043563	0.203043563	6.0995E-06	1.00808E-05
El Dorado (LT)	2020	T6TS	Aggregate	60	Gasoline	1747.230067	0.054422755	0.085371254	0.000%	0.16%	0	0	0	0	0
El Dorado (LT)	2020	T6TS	Aggregate	65	Gasoline	1802.063819	0.062464159	0.086948359	0.000%	0.16%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	5	Diesel	3669.054612	0.905926034	0.57672429	0.002%	0.00%	0.000221564	8.1293E-07	8.1293E-07	2.00721E-10	1.27781E-10
El Dorado (LT)	2020	T7 Ag	Aggregate	10	Diesel	3281.861332	0.694101169	0.515862899	0.011%	0.00%	0.001414989	4.6438E-06	4.6438E-06	9.82146E-10	7.29941E-10
El Dorado (LT)	2020	T7 Ag	Aggregate	15	Diesel	2662.057032	0.354400326	0.418438294	7.441%	0.00%	0.925806541	0.00246455	0.00246455	3.28106E-07	3.87393E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	20	Diesel	2164.429785	0.155807023	0.340218221	0.207%	0.00%	0.025730954	5.56928E-05	5.56928E-05	4.00906E-09	8.75414E-09
El Dorado (LT)	2020	T7 Ag	Aggregate	25	Diesel	1929.361345	0.106274878	0.303268735	9.881%	0.00%	1.229404032	0.002371965	0.002371965	1.30655E-07	3.7284E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	30	Diesel	1805.313469	0.080614267	0.283770137	3.122%	0.00%	0.388480377	0.000701329	0.000701329	3.13171E-08	1.10239E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	35	Diesel	1707.335231	0.061260383	0.268369322	29.790%	0.00%	3.70646942	0.006328186	0.006328186	2.2706E-07	9.94703E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	40	Diesel	1634.509844	0.048183552	0.256922186	12.632%	0.00%	1.571640118	0.002568861	0.002568861	7.57272E-08	4.03789E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	45	Diesel	1586.295539	0.041059893	0.249343568	18.146%	0.00%	2.257786193	0.003581516	0.003581516	9.27045E-08	5.62964E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	50	Diesel	1562.52559	0.039271317	0.245607263	10.003%	0.00%	1.24465093	0.001944799	0.001944799	4.88791E-08	3.05695E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	55	Diesel	1563.408282	0.041905527	0.24574601	8.765%	0.00%	1.090568918	0.001705004	0.001705004	4.57009E-08	2.68003E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	60	Diesel	1562.083124	0.046359011	0.245537714	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	65	Diesel	1562.083124	0.046359011	0.245537714	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	70	Diesel	1562.083124	0.046359011	0.245537714	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	75	Diesel	1562.083124	0.046359011	0.245537714	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 Ag	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	5	Diesel	3636.110064	0.052715181	0.571545866	0.002%	0.78%	0.12275562	0.000446353	0.000446353	6.47108E-09	7.01605E-08
El Dorado (LT)	2020	T7 CAIRP	Aggregate	10	Diesel	3051.365435	0.03956866	0.479632154	0.011%	0.78%	0.783962955	0.002392157	0.002392157	3.10204E-08	3.76014E-07
El Dorado (LT)	2020	T7 CAIRP	Aggregate	15	Diesel	2430.669498	0.022389442	0.382067396	7.441%	0.78%	512.9353066	1.246776204	1.246776204	1.14843E-05	0.000195976
El Dorado (LT)	2020	T7 CAIRP	Aggregate	20	Diesel	2079.074645	0.012783146	0.326801581	0.207%	0.78%	14.25601784	0.029639325	0.029639325	1.82237E-07	4.65889E-06
El Dorado (LT)	2020	T7 CAIRP	Aggregate	25	Diesel	1827.678476	0.009470134	0.287285604	9.881%	0.78%	681.1409362	1.244906628	1.244906628	6.4505E-06	0.000195682
El Dorado (LT)	2020	T7 CAIRP	Aggregate	30	Diesel	1616.079825	0.007442762	0.254025243	3.122%	0.78%	215.2342767	0.347835772	0.347835772	1.60194E-06	5.46749E-05
El Dorado (LT)	2020	T7 CAIRP	Aggregate	35	Diesel	1452.583517	0.005903377	0.2283259	29.790%	0.78%	2053.538125	2.982935632	2.982935632	1.21228E-05	0.000468876
El Dorado (LT)	2020	T7 CAIRP	Aggregate	40	Diesel	1335.022221	0.004781151	0.209846902	12.632%	0.78%	870.7539534	1.162475877	1.162475877	4.16321E-06	0.000182725
El Dorado (LT)	2020	T7 CAIRP	Aggregate	45	Diesel	1261.813504	0.004022376	0.198339511	18.146%	0.78%	1250.9074	1.57841185	1.57841185	5.03162E-06	0.000248104
El Dorado (LT)	2020	T7 CAIRP	Aggregate	50	Diesel	1231.681467	0.003585575	0.193603174	10.003%	0.78%	689.5883513	0.849353192	0.849353192	2.47257E-06	0.000133506
El Dorado (LT)	2020	T7 CAIRP	Aggregate	55	Diesel	1251.013115	0.003437895	0.19664184	8.765%	0.78%	604.2205122	0.755887785	0.755887785	2.07725E-06	0.000118815
El Dorado (LT)	2020	T7 CAIRP	Aggregate	60	Diesel	1314.681156	0.003550152	0.20664957	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	65	Diesel	1421.22251	0.003754277	0.223396387	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	70	Diesel	1421.22251	0.003856638	0.223396387	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	75	Diesel	1421.22251	0.003984228	0.223396387	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	80	Diesel	0	0	0	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	85	Diesel	0	0	0	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP	Aggregate	90	Diesel	0	0	0	0.000%	0.78%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	5	Diesel	3679.703713	0.052507447	0.578398181	0.002%	0.11%	0.016829224	6.19266E-05	6.19266E-05	8.8366E-10	9.73399E-09
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	10	Diesel	3088.066281	0.039420215	0.485401016	0.011%	0.11%	0.107477669	0.000331898	0.000331898	4.23679E-09	5.21698E-08
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	15	Diesel	2460.003914	0.022311033	0.386678358	7.441%	0.11%	70.32104128	0.172990037	0.172990037	1.56894E-06	2.71916E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	20	Diesel	2104.208537	0.012743674	0.330752279	0.207%	0.11%	1.954433642	0.004112536	0.004112536	2.49067E-08	6.46433E-07
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	25	Diesel	1849.815977	0.009443242	0.290765311	9.881%	0.11%	93.3812496	0.172738127	0.172738127	8.81822E-07	2.7152E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	30	Diesel	1645.26861	0.007423059	0.258613314	3.122%	0.11%	29.50761678	0.048547956	0.048547956	2.19037E-07	7.63106E-06
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	35	Diesel	1487.540845	0.005888808	0.233820706	29.790%	0.11%	281.5305116	0.418788135	0.418788135	1.65788E-06	6.58277E-05

El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	40	Diesel	1375.237916	0.004769647	0.216168249	12.632%	0.11%	119.376311	0.164170829	0.164170829	5.69383E-07	2.58054E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	45	Diesel	1307.542143	0.004011892	0.205527416	18.146%	0.11%	171.4935779	0.22423508	0.22423508	6.88014E-07	3.52466E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	50	Diesel	1283.93802	0.003574123	0.201817177	10.003%	0.11%	94.53935087	0.121382667	0.121382667	3.37895E-07	1.90797E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	55	Diesel	1304.082967	0.00342358	0.204983682	8.765%	0.11%	82.83581776	0.108024779	0.108024779	2.83595E-07	1.698E-05
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	60	Diesel	1370.452246	0.003532684	0.215416008	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	65	Diesel	1481.520284	0.003734558	0.232874357	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	70	Diesel	1481.520284	0.003837796	0.232874357	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	75	Diesel	1481.520284	0.003966479	0.232874357	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	80	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	85	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	90	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	5	Diesel	3520.400062	0.054077146	0.553357865	0.002%	0.96%	0.149944599	0.000527865	0.000527865	8.10858E-09	8.2973E-08
El Dorado (LT)	2020	T7 NNOOS	Aggregate	10	Diesel	2944.418589	0.040357829	0.462821599	0.011%	0.96%	0.957601869	0.002819581	0.002819581	3.86467E-08	4.43199E-07
El Dorado (LT)	2020	T7 NNOOS	Aggregate	15	Diesel	2334.786747	0.021549193	0.366995963	7.441%	0.96%	626.544667	1.462848185	1.462848185	1.35015E-05	0.000229939
El Dorado (LT)	2020	T7 NNOOS	Aggregate	20	Diesel	1990.275561	0.011225914	0.312843602	0.207%	0.96%	17.41356432	0.034657791	0.034657791	1.95483E-07	5.44772E-06
El Dorado (LT)	2020	T7 NNOOS	Aggregate	25	Diesel	1745.070246	0.008402926	0.274300741	9.881%	0.96%	832.0059384	1.451908807	1.451908807	6.99128E-06	0.00022822
El Dorado (LT)	2020	T7 NNOOS	Aggregate	30	Diesel	1539.37118	0.006828807	0.241967712	3.122%	0.96%	262.9062311	0.404710275	0.404710275	1.79534E-06	6.36148E-05
El Dorado (LT)	2020	T7 NNOOS	Aggregate	35	Diesel	1380.448796	0.005599271	0.216987327	29.790%	0.96%	2508.37356	3.462681262	3.462681262	1.40451E-05	0.000544285
El Dorado (LT)	2020	T7 NNOOS	Aggregate	40	Diesel	1267.050037	0.004683876	0.199162621	12.632%	0.96%	1063.616091	1.347654807	1.347654807	4.98185E-06	0.000211833
El Dorado (LT)	2020	T7 NNOOS	Aggregate	45	Diesel	1198.156303	0.004058857	0.188333485	18.146%	0.96%	1527.969221	1.830745952	1.830745952	6.20181E-06	0.000287768
El Dorado (LT)	2020	T7 NNOOS	Aggregate	50	Diesel	1172.872309	0.003705023	0.184359194	10.003%	0.96%	842.3243603	0.987938918	0.987938918	3.12083E-06	0.00015529
El Dorado (LT)	2020	T7 NNOOS	Aggregate	55	Diesel	1196.808031	0.003606216	0.188121556	8.765%	0.96%	738.0485117	0.883302386	0.883302386	2.66156E-06	0.000138843
El Dorado (LT)	2020	T7 NNOOS	Aggregate	60	Diesel	1264.243129	0.003714833	0.198721414	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	65	Diesel	1373.819806	0.003870533	0.215945342	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	70	Diesel	1373.819806	0.003994032	0.215945342	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	75	Diesel	1373.819806	0.004147969	0.215945342	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NNOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.96%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	5	Diesel	3638.596788	0.052960728	0.571936745	0.002%	0.31%	0.048131873	0.000175132	0.000175132	2.5491E-09	2.75284E-08
El Dorado (LT)	2020	T7 NOOS	Aggregate	10	Diesel	3053.419762	0.039735816	0.479955065	0.011%	0.31%	0.307388006	0.000938585	0.000938585	1.22143E-08	1.47532E-07
El Dorado (LT)	2020	T7 NOOS	Aggregate	15	Diesel	2432.457515	0.022483815	0.382348447	7.441%	0.31%	201.1194024	0.489214402	0.489214402	4.52193E-06	7.68977E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	20	Diesel	2080.851591	0.012857616	0.327080893	0.207%	0.31%	5.589714245	0.011631366	0.011631366	7.18704E-08	1.82829E-06
El Dorado (LT)	2020	T7 NOOS	Aggregate	25	Diesel	1829.298608	0.009534055	0.287540267	9.881%	0.31%	267.0719998	0.488554437	0.488554437	2.54628E-06	7.6794E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	30	Diesel	1617.499539	0.007494411	0.254248403	3.122%	0.31%	84.39229776	0.136504503	0.136504503	6.32471E-07	2.14566E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	35	Diesel	1453.853339	0.005945397	0.228525499	29.790%	0.31%	805.1821651	1.17061678	1.17061678	4.78713E-06	0.000184005
El Dorado (LT)	2020	T7 NOOS	Aggregate	40	Diesel	1336.174298	0.004815155	0.210027992	12.632%	0.31%	341.4183281	0.456194395	0.456194395	1.64398E-06	7.17074E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	45	Diesel	1262.868865	0.004049436	0.198505399	18.146%	0.31%	490.4746186	0.619405125	0.619405125	1.98615E-06	9.73619E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	50	Diesel	1232.653683	0.00360663	0.193755993	10.003%	0.31%	270.3841896	0.333290067	0.333290067	9.75176E-07	5.23886E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	55	Diesel	1251.92111	0.003454112	0.196784564	8.765%	0.31%	236.9118811	0.296594985	0.296594985	8.1832E-07	4.66206E-05
El Dorado (LT)	2020	T7 NOOS	Aggregate	60	Diesel	1315.589684	0.003563657	0.206792378	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	65	Diesel	1422.193998	0.003768889	0.223549091	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	70	Diesel	1422.193998	0.003870551	0.223549091	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	75	Diesel	1422.193998	0.003997268	0.223549091	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 NOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	5	Diesel	3734.369535	0.044541484	0.586990887	0.002%	0.17%	0.026480395	9.88876E-05	9.88876E-05	1.17948E-09	1.55438E-08
El Dorado (LT)	2020	T7 Public	Aggregate	10	Diesel	3305.096678	0.034411832	0.519515172	0.011%	0.17%	0.169113629	0.000558937	0.000558937	5.81951E-09	8.78571E-08
El Dorado (LT)	2020	T7 Public	Aggregate	15	Diesel	2691.925879	0.019201871	0.423133261	7.441%	0.17%	110.6485335	0.297857651	0.297857651	2.12466E-06	4.68191E-05
El Dorado (LT)	2020	T7 Public	Aggregate	20	Diesel	2242.094536	0.009805303	0.352426038	0.207%	0.17%	3.075256172	0.006895015	0.006895015	3.01538E-08	1.0838E-06
El Dorado (LT)	2020	T7 Public	Aggregate	25	Diesel	1999.867699	0.007000835	0.314351352	9.881%	0.17%	146.9332384	0.293847037	0.293847037	1.02866E-06	4.61887E-05
El Dorado (LT)	2020	T7 Public	Aggregate	30	Diesel	1847.572173	0.005603839	0.290412617	3.122%	0.17%	46.42955313	0.08578195	0.08578195	2.60184E-07	1.34837E-05
El Dorado (LT)	2020	T7 Public	Aggregate	35	Diesel	1725.860307	0.004536948	0.271281206	29.790%	0.17%	442.9817544	0.764524627	0.764524627	2.00979E-06	0.000120173
El Dorado (LT)	2020	T7 Public	Aggregate	40	Diesel	1633.552061	0.003773211	0.256771636	12.632%	0.17%	187.8358668	0.306839667	0.306839667	7.08744E-07	4.82309E-05
El Dorado (LT)	2020	T7 Public	Aggregate	45	Diesel	1569.955163	0.003290682	0.246775089	18.146%	0.17%	269.8411819	0.423638557	0.423638557	8.87962E-07	6.65901E-05
El Dorado (LT)	2020	T7 Public	Aggregate	50	Diesel	1534.652356	0.003070575	0.241225979	10.003%	0.17%	148.755484	0.228287954	0.228287954	4.56765E-07	3.58837E-05
El Dorado (LT)	2020	T7 Public	Aggregate	55	Diesel	1527.401351	0.003095894	0.240086222	8.765%	0.17%	130.3402451	0.199081866	0.199081866	4.0352E-07	3.12929E-05
El Dorado (LT)	2020	T7 Public	Aggregate	60	Diesel	1545.139151	0.003222093	0.242874357	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	65	Diesel	1578.878501	0.003258843	0.248177713	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	70	Diesel	1578.878501	0.003293566	0.248177713	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	75	Diesel	1578.878501	0.003336848	0.248177713	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.17%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	5	Diesel	3566.296455	0.21670024	0.560572139	0.002%	0.06%	0.008711088	3.10663E-05	3.10663E-05	1.88769E-09	4.88319E-09
El Dorado (LT)	2020	T7 Single	Aggregate	10	Diesel	3105.644801	0.163365458	0.488164114	0.011%	0.06%	0.055632244	0.000172774	0.000172774	9.08839E-09	2.71577E-08
El Dorado (LT)	2020	T7 Single	Aggregate	15	Diesel	2509.007672	0.083693751	0.394381066	7.441%	0.06%	36.39935019	0.091326249	0.091326249	3.0464E-06	1.43552E-05
El Dorado (LT)	2020	T7 Single	Aggregate	20	Diesel	2101.708496	0.038623513	0.330359308	0.207%	0.06%	1.011647627	0.002126188	0.002126188	3.90734E-08	3.34207E-07
El Dorado (LT)	2020	T7 Single	Aggregate	25	Diesel	1864.957321	0.027735664	0.29314532	9.881%	0.06%	48.33570071	0.090144019	0.090144019	1.34062E-06	1.41694E-05
El Dorado (LT)	2020	T7 Single	Aggregate	30	Diesel	1702.849406	0.02220481	0.267664213	3.122%	0.06%	15.27363726	0.026008704	0.026008704	3.39148E-07	4.08821E-06
El Dorado (LT)	2020	T7 Single	Aggregate	35	Diesel	1574.528641	0.017954579	0.247493976	29.790%	0.06%	145.7249138	0.229448051	0.229448051	2.61643E-06	3.6066E-05
El Dorado (LT)	2020	T7 Single	Aggregate	40	Diesel	1479.42918	0.014959125	0.232545665	12.632%	0.06%	61.79118043	0.091415675	0.091415675	9.24342E-07	1.43693E-05
El Dorado (LT)	2020	T7 Single	Aggregate	45	Diesel	1417.219305	0.013199401	0.222767139	18.146%	0.06%	88.76795169	0.125803655	0.125803655	1.17168E-06	1.97746E-05
El Dorado (LT)	2020	T7 Single	Aggregate	50	Diesel	1387.689483	0.012661372	0.218125462	10.003%	0.06%	48.93515335	0.067906798	0.067906798	6.19586E-07	1.0674E-05
El Dorado (LT)	2020	T7 Single	Aggregate	55	Diesel	1390.699736	0.013334695	0.218598632	8.765%	0.06%	42.87720836	0.059629322	0.059629322	5.71755E-07	9.3729E-06
El Dorado (LT)	2020	T7 Single	Aggregate	60	Diesel	1425.49644	0.014143713	0.224068189	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	65	Diesel	1484.097268	0.014198216	0.233279423	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	70	Diesel	1484.097268	0.01426382	0.233279423	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	75	Diesel	1484.097268	0.014345592	0.233279423	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	80	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0

El Dorado (LT)	2020	T7 Single	Aggregate	85	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 Single	Aggregate	90	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	5	Diesel	3684.589423	0.167903755	0.579166146	0.002%	0.27%	0.041750209	0.000153832	0.000153832	7.01002E-09	2.41803E-08
El Dorado (LT)	2020	T7 single construction	Aggregate	10	Diesel	3174.666799	0.12813893	0.499013411	0.011%	0.27%	0.266632329	0.000846469	0.000846469	3.4166E-08	1.33053E-07
El Dorado (LT)	2020	T7 single construction	Aggregate	15	Diesel	2558.961041	0.068173347	0.40223304	7.441%	0.27%	174.4535692	0.446419887	0.446419887	1.18931E-05	7.0171E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	20	Diesel	2161.787032	0.033043716	0.339802817	0.207%	0.27%	4.848590386	0.01048162	0.01048162	1.60215E-07	1.64756E-06
El Dorado (LT)	2020	T7 single construction	Aggregate	25	Diesel	1914.937631	0.023821429	0.301001529	9.881%	0.27%	231.6617046	0.443617716	0.443617716	5.51851E-06	6.97305E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	30	Diesel	1736.542349	0.019201308	0.272960274	3.122%	0.27%	73.20296988	0.127120057	0.127120057	1.40559E-06	1.99815E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	35	Diesel	1596.996176	0.015625244	0.251025559	29.790%	0.27%	698.4254173	1.115382721	1.115382721	1.09131E-05	0.000175323
El Dorado (LT)	2020	T7 single construction	Aggregate	40	Diesel	1494.842517	0.013041882	0.234968427	12.632%	0.27%	296.1506708	0.442698614	0.442698614	3.86236E-06	6.95861E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	45	Diesel	1429.227207	0.011401236	0.224654614	18.146%	0.27%	425.4440238	0.608056174	0.608056174	4.85059E-06	9.5578E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	50	Diesel	1399.621265	0.010651225	0.220000972	10.003%	0.27%	234.5347409	0.328259811	0.328259811	2.49808E-06	5.15979E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	55	Diesel	1405.690537	0.010735109	0.220954977	8.765%	0.27%	205.5004279	0.288870007	0.288870007	2.20607E-06	4.54063E-05
El Dorado (LT)	2020	T7 single construction	Aggregate	60	Diesel	1447.5678	0.011177722	0.2275375	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	65	Diesel	1520.276449	0.011266114	0.238966287	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	70	Diesel	1520.276449	0.011323918	0.238966287	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	75	Diesel	1520.276449	0.011395969	0.238966287	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	80	Diesel	0	0	0	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	85	Diesel	0	0	0	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 single construction	Aggregate	90	Diesel	0	0	0	0.000%	0.27%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	5	Diesel	8721.585284	9.98168E-05	1.370911751	0.002%	0.02%	0.002905072	2.53368E-05	2.53368E-05	2.89975E-13	3.9826E-09
El Dorado (LT)	2020	T7 SWCV	Aggregate	10	Diesel	7881.009311	7.95907E-05	1.238784914	0.011%	0.02%	0.01855287	0.000146215	0.000146215	1.47664E-12	2.2983E-08
El Dorado (LT)	2020	T7 SWCV	Aggregate	15	Diesel	6445.867339	4.61554E-05	1.013200582	7.441%	0.02%	12.13886711	0.078245527	0.078245527	5.60275E-10	1.22991E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	20	Diesel	5274.123256	2.29401E-05	0.829018729	0.207%	0.02%	0.337375696	0.001779361	0.001779361	7.73943E-12	2.79691E-07
El Dorado (LT)	2020	T7 SWCV	Aggregate	25	Diesel	4721.40199	1.63487E-05	0.742138643	9.881%	0.02%	16.11953633	0.076106811	0.076106811	2.63533E-10	1.19629E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	30	Diesel	4427.373966	1.39255E-05	0.695921533	3.122%	0.02%	5.093625355	0.022551384	0.022551384	7.09312E-11	3.54476E-06
El Dorado (LT)	2020	T7 SWCV	Aggregate	35	Diesel	4187.190319	1.19766E-05	0.658168008	29.790%	0.02%	48.59799295	0.203489046	0.203489046	5.82039E-10	3.19856E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	40	Diesel	4000.145265	1.05012E-05	0.62876713	12.632%	0.02%	20.60682194	0.082430281	0.082430281	2.16396E-10	1.29569E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	45	Diesel	3865.821713	9.48969E-06	0.607653339	18.146%	0.02%	29.60334083	0.114441238	0.114441238	2.80926E-10	1.79886E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	50	Diesel	3784.091325	8.92375E-06	0.59480646	10.003%	0.02%	16.31944858	0.061754284	0.061754284	1.45631E-10	9.70691E-06
El Dorado (LT)	2020	T7 SWCV	Aggregate	55	Diesel	3755.114434	8.77638E-06	0.590251696	8.765%	0.02%	14.29917654	0.053695044	0.053695044	1.25495E-10	8.44011E-06
El Dorado (LT)	2020	T7 SWCV	Aggregate	60	Diesel	3751.931567	8.90342E-06	0.589751394	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	65	Diesel	3751.931567	8.90342E-06	0.589751394	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	70	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	75	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	80	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	85	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 SWCV	Aggregate	90	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	5	Diesel	3731.512969	0.213255733	0.586541874	0.002%	0.00%	0.000673543	2.51333E-06	2.51333E-06	1.43637E-10	3.95061E-10
El Dorado (LT)	2020	T7 tractor	Aggregate	10	Diesel	3198.091231	0.162749082	0.502695405	0.011%	0.00%	0.004301496	1.37566E-05	1.37566E-05	7.00065E-10	2.16234E-09
El Dorado (LT)	2020	T7 tractor	Aggregate	15	Diesel	2574.037584	0.087053557	0.404602863	7.441%	0.00%	2.814405178	0.007244385	0.007244385	2.45004E-07	1.13872E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	20	Diesel	2182.821587	0.042688248	0.343109156	0.207%	0.00%	0.078220801	0.000170742	0.000170742	3.33911E-09	2.68383E-08
El Dorado (LT)	2020	T7 tractor	Aggregate	25	Diesel	1931.526945	0.030632972	0.303609138	9.881%	0.00%	3.737326234	0.007218746	0.007218746	1.14485E-07	1.13469E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	30	Diesel	1735.068613	0.024411801	0.272728624	3.122%	0.00%	1.180960747	0.002049048	0.002049048	2.88294E-08	3.22082E-07
El Dorado (LT)	2020	T7 tractor	Aggregate	35	Diesel	1581.536507	0.019638373	0.248595515	29.790%	0.00%	11.26748005	0.017819931	0.017819931	2.21275E-07	2.80105E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	40	Diesel	1468.471512	0.016224376	0.230823272	12.632%	0.00%	4.777706669	0.007015926	0.007015926	7.75153E-08	1.10281E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	45	Diesel	1394.15967	0.014086124	0.219142485	18.146%	0.00%	6.863556123	0.009568893	0.009568893	9.66809E-08	1.5041E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	50	Diesel	1357.287827	0.01313857	0.213346745	10.003%	0.00%	3.783676034	0.005135537	0.005135537	4.97121E-08	8.07235E-07
El Dorado (LT)	2020	T7 tractor	Aggregate	55	Diesel	1364.977347	0.013290894	0.21455543	8.765%	0.00%	3.315274492	0.004525275	0.004525275	4.4063E-08	7.1131E-07
El Dorado (LT)	2020	T7 tractor	Aggregate	60	Diesel	1409.771167	0.013920927	0.221596395	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	65	Diesel	1487.881531	0.014076272	0.233874257	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	70	Diesel	1487.881531	0.014121342	0.233874257	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	75	Diesel	1487.881531	0.014177519	0.233874257	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	5	Diesel	3731.015836	0.167873249	0.586463732	0.002%	0.22%	0.034440246	0.000128497	0.000128497	5.7816E-09	2.0198E-08
El Dorado (LT)	2020	T7 tractor construction	Aggregate	10	Diesel	3191.741363	0.127611119	0.501697295	0.011%	0.22%	0.219948197	0.000702018	0.000702018	2.80678E-08	1.10347E-07
El Dorado (LT)	2020	T7 tractor construction	Aggregate	15	Diesel	2571.250149	0.068624611	0.404164717	7.441%	0.22%	143.9088356	0.370025615	0.370025615	9.87569E-06	5.81629E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	20	Diesel	2188.805802	0.034697749	0.344049791	0.207%	0.22%	3.999660195	0.008754479	0.008754479	1.38779E-07	1.37608E-06
El Dorado (LT)	2020	T7 tractor construction	Aggregate	25	Diesel	1937.471381	0.025117097	0.30454352	9.881%	0.22%	191.1005106	0.37025177	0.37025177	4.79989E-06	5.81984E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	30	Diesel	1748.317652	0.019871128	0.274811188	3.122%	0.22%	60.3860053	0.105573919	0.105573919	1.19994E-06	1.65947E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	35	Diesel	1601.27851	0.015860035	0.251698683	29.790%	0.22%	576.1394793	0.922559767	0.922559767	9.13759E-06	0.000145014
El Dorado (LT)	2020	T7 tractor construction	Aggregate	40	Diesel	1494.171579	0.012974473	0.234862965	12.632%	0.22%	244.29823	0.365023472	0.365023472	3.16964E-06	5.73766E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	45	Diesel	1425.717296	0.011122389	0.224102905	18.146%	0.22%	350.9538632	0.500360993	0.500360993	3.90345E-06	7.86498E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	50	Diesel	1395.114794	0.010221536	0.219292617	10.003%	0.22%	193.4705126	0.269913574	0.269913574	1.97757E-06	4.24267E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	55	Diesel	1401.842486	0.010193948	0.220350117	8.765%	0.22%	169.5197606	0.237640003	0.237640003	1.72808E-06	3.73537E-05
El Dorado (LT)	2020	T7 tractor construction	Aggregate	60	Diesel	1448.454552	0.010614876	0.227676885	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	65	Diesel	1531.226341	0.010777697	0.240687457	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	70	Diesel	1531.226341	0.010838501	0.240687457	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	75	Diesel	1531.226341	0.010914291	0.240687457	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	80	Diesel	0	0	0	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	85	Diesel	0	0	0	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 tractor construction	Aggregate	90	Diesel	0	0	0	0.000%	0.22%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	5	Diesel	3820.100234	0.021501227	0.600466559	0.002%	0.00%	0.000758224	2.89649E-06	2.89649E-06	1.63027E-11	4.55288E-10
El Dorado (LT)	2020	T7 utility	Aggregate	10	Diesel	3260.378258	0.016441461	0.512486059	0.011%	0.00%	0.004842301	1.57877E-05	1.57877E-05	7.96145E-11	2.48161E-09
El Dorado (LT)	2020	T7 utility	Aggregate	15	Diesel	2628.629998	0.01031168	0.41318403	7.441%	0.00%	3.168245484	0.008328145	0.008328145	3.26699E-08	1.30907E-06
El Dorado (LT)	2020	T7 utility	Aggregate	20	Diesel	2247.099698	0.006751781	0.35321278	0.207%	0.00%	0.088055089	0.000197869	0.000197869	5.94529E-10	3.11022E-08
El Dorado (LT)	2020	T7 utility	Aggregate	25	Diesel	1989.556164	0.004993508	0.312730523	9.881%	0.00%	4.207200532	0.008370462	0.008370462	2.10087E-08	1.31572E-06
El Dorado (LT)	2020	T7 utility	Aggregate	30	Diesel	1792.317721	0.003799569	0.281727386	3.122%	0.00%	1.329436708	0.002382773	0.002382773	5.05129E-09	3.74539E-07
El Dorado (LT)	2020	T7 utility	Aggregate	35	Diesel	1639.290569	0.002909969	0.257673649	29.790%	0.00%	12.68408083	0.020792894	0.020792894	3.69103E-08	3.26835E-06

El Dorado (LT)	2020	T7 utility	Aggregate	40	Diesel	1527.790276	0.002260528	0.240147356	12.632%	0.00%	5.378382507	0.00821704	0.00821704	1.2158E-08	1.2916E-06
El Dorado (LT)	2020	T7 utility	Aggregate	45	Diesel	1456.243099	0.001803767	0.228901136	18.146%	0.00%	7.726474803	0.011251626	0.011251626	1.39368E-08	1.7686E-06
El Dorado (LT)	2020	T7 utility	Aggregate	50	Diesel	1423.656829	0.001504463	0.223779028	10.003%	0.00%	4.259377648	0.006063892	0.006063892	6.40807E-09	9.53159E-07
El Dorado (LT)	2020	T7 utility	Aggregate	55	Diesel	1429.372003	0.001336381	0.224677374	8.765%	0.00%	3.732086453	0.00533454	0.00533454	4.98749E-09	8.38515E-07
El Dorado (LT)	2020	T7 utility	Aggregate	60	Diesel	1477.976283	0.001331433	0.23231729	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	65	Diesel	1565.791738	0.001424461	0.246120656	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	70	Diesel	1565.791738	0.001463258	0.246120656	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7IS	Aggregate	5	Gasoline	4582.028097	0.289225677	0.205454518	0.002%	0.00%	2.39596E-05	1.09784E-07	1.09784E-07	6.92974E-12	4.92261E-12
El Dorado (LT)	2020	T7IS	Aggregate	10	Gasoline	3724.1683	0.183342421	0.176703125	0.011%	0.00%	0.000153015	5.69854E-07	5.69854E-07	2.80542E-11	2.70382E-11
El Dorado (LT)	2020	T7IS	Aggregate	15	Gasoline	3049.641636	0.121781207	0.155926522	7.441%	0.00%	0.100115504	0.000305316	0.000305316	1.21922E-08	1.56107E-08
El Dorado (LT)	2020	T7IS	Aggregate	20	Gasoline	2538.134475	0.084889382	0.14084511	0.207%	0.00%	0.002782512	7.06239E-06	7.06239E-06	2.36206E-10	3.91903E-10
El Dorado (LT)	2020	T7IS	Aggregate	25	Gasoline	2171.827579	0.062807942	0.12803556	9.881%	0.00%	0.132946138	0.000288736	0.000288736	8.35007E-09	1.70218E-08
El Dorado (LT)	2020	T7IS	Aggregate	30	Gasoline	1928.28085	0.049056211	0.118245855	3.122%	0.00%	0.042009758	8.10066E-05	8.10066E-05	2.06084E-09	4.96748E-09
El Dorado (LT)	2020	T7IS	Aggregate	35	Gasoline	1787.292047	0.040369231	0.111173508	29.790%	0.00%	0.400812737	0.000716369	0.000716369	1.61805E-08	4.45598E-08
El Dorado (LT)	2020	T7IS	Aggregate	40	Gasoline	1728.764879	0.035003557	0.1064011	12.632%	0.00%	0.169955099	0.000293812	0.000293812	5.94903E-09	1.80834E-08
El Dorado (LT)	2020	T7IS	Aggregate	45	Gasoline	1732.51772	0.031858464	0.104228717	18.146%	0.00%	0.244154034	0.000423001	0.000423001	7.77837E-09	2.54479E-08
El Dorado (LT)	2020	T7IS	Aggregate	50	Gasoline	1780.750098	0.030745074	0.102957766	10.003%	0.00%	0.134594917	0.00023968	0.00023968	4.13813E-09	1.38576E-08
El Dorado (LT)	2020	T7IS	Aggregate	55	Gasoline	1851.351399	0.031445381	0.102673976	8.765%	0.00%	0.117932691	0.000218335	0.000218335	3.70844E-09	1.21086E-08
El Dorado (LT)	2020	T7IS	Aggregate	60	Gasoline	1923.845873	0.033457845	0.106056368	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2020	T7IS	Aggregate	65	Gasoline	1980.746209	0.03798017	0.109697744	0.000%	0.00%	0	0	0	0	0

SCENARIO	El Dorado County (LT) 2018 - STREX and IDLEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	El Dorado (LT)
Calendar Year	2018
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Daily Trips	144,683
Daily Vehicles	30,601

SAFE Rule Adjustment Factors	
CO_2	1

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 IDLEX	CO_2 STREX	CH_4 IDLEX	CH_4 STREX	N_2O IDLEX	N_2O STREX	Fleet Mix	Vehicle Trips per Day	Vehicles per Day	CO_2 STREX Emissions (tons/day)	CO_2 STREX Emissions Adjusted for SAFE Rule (tons/day)	CO_2 IDLEX Emissions (tons/day)	CO_2 IDLEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 STREX Emissions (tons/day)	CH_4 IDLEX Emissions (tons/day)	N_2O STREX Emissions (tons/day)	N_2O IDLEX Emissions (tons/day)
El Dorado (LT)	2020	All Other Buses	Aggregate	Aggregate	Diesel	646.071545	0	0.025515029	0	0.10155345	0	0.10%	148.2996367	31.36544937	0	0	0.020264324	0.020264324	0	8.0029E-07	0	3.18527E-06
El Dorado (LT)	2020	LDA	Aggregate	Aggregate	Gasoline	0	67.75586824	0	0.143652936	0	0.040090103	28.59%	41360.15361	8747.693739	2.802393118	2.802393118	0	0	0.005941507	0	0.001658133	0
El Dorado (LT)	2020	LDA	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.29%	418.6688185	88.54867022	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.20%	283.4319679	59.94600684	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LDT1	Aggregate	Aggregate	Gasoline	0	78.77021946	0	0.193989631	0	0.045221729	7.42%	10730.53056	2269.512727	0.845246247	0.845246247	0	0	0.002081612	0	0.000485253	0
El Dorado (LT)	2020	LDT1	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.01%	11.44015515	2.419598693	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.00%	1.840566834	0.389280831	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LDT2	Aggregate	Aggregate	Gasoline	0	88.76244124	0	0.174968803	0	0.053774294	32.03%	46343.39839	9801.652569	4.113553176	4.113553176	0	0	0.008108649	0	0.002492084	0
El Dorado (LT)	2020	LDT2	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.12%	172.4226535	36.46747981	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LDT2	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.04%	56.28501098	11.90430874	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	LHD1	Aggregate	Aggregate	Gasoline	124.7981351	21.46629967	0.116931515	0.042865847	0.00272502	0.042126092	3.03%	4390.550637	928.6037155	0.094248876	0.094248876	0.115888012	0.115888012	0.000188205	0.000108583	0.000184957	2.53046E-06
El Dorado (LT)	2020	LHD1	Aggregate	Aggregate	Diesel	141.8994815	0	0.005098128	0	0.022304622	0	2.82%	4084.246802	863.820297	0	0	0.122575652	0.122575652	0	4.40387E-06	0	1.92672E-05
El Dorado (LT)	2020	LHD2	Aggregate	Aggregate	Gasoline	143.9177623	23.52455754	0.122625033	0.037297438	0.002947943	0.040488126	0.30%	428.7936586	90.6900791	0.010087181	0.010087181	0.013051913	0.013051913	1.59929E-05	1.11209E-05	1.73611E-05	2.67349E-07
El Dorado (LT)	2020	LHD2	Aggregate	Aggregate	Diesel	227.8095405	0	0.005098128	0	0.035808487	0	0.70%	1010.334953	213.6863617	0	0	0.048679792	0.048679792	0	1.0894E-06	0	7.65179E-06
El Dorado (LT)	2020	MCY	Aggregate	Aggregate	Gasoline	0	75.61628657	0	0.399046627	0	0.01692664	0.65%	943.1967353	199.4865941	0.071321035	0.071321035	0	0	0.000376379	0	1.59652E-05	0
El Dorado (LT)	2020	MDV	Aggregate	Aggregate	Gasoline	0	107.1748932	0	0.210130515	0	0.060494844	18.57%	26873.25227	5683.706663	2.880137942	2.880137942	0	0	0.00564689	0	0.001625693	0
El Dorado (LT)	2020	MDV	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.38%	550.6009097	116.4523753	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	MDV	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.00%	4.591972668	0.971204579	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	MH	Aggregate	Aggregate	Gasoline	0	31.00198059	0	0.045236726	0	0.02962913	0.17%	252.2965213	53.36084388	0.007821692	0.007821692	0	0	1.14131E-05	0	7.47533E-06	0
El Dorado (LT)	2020	MH	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.06%	91.20627469	19.29017396	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	Motor Coach	Aggregate	Aggregate	Diesel	11375.36433	0	0.330987449	0	1.788048862	0	0.09%	130.9839864	27.70318043	0	0	0.31513377	0.31513377	0	9.16941E-06	0	4.95346E-05
El Dorado (LT)	2020	OBUS	Aggregate	Aggregate	Gasoline	388.1450668	32.31511312	0.172160194	0.042825174	0.003993177	0.024774889	0.06%	84.26577522	17.82225475	0.002723058	0.002723058	0.00691762	0.00691762	3.6087E-06	3.06828E-06	2.08768E-06	7.11674E-08
El Dorado (LT)	2020	PTO	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.01%	15.95616764	3.374737653	0	0	0	0	0	0	0	0
El Dorado (LT)	2020	SBUS	Aggregate	Aggregate	Gasoline	2502.037802	58.60392168	2.480046845	0.077020579	0.093836634	0.057484086	0.00%	2.197655812	0.464805333	0.000128791	0.000128791	0.001162961	0.001162961	1.69265E-07	1.15274E-06	1.2633E-07	4.36158E-08
El Dorado (LT)	2020	SBUS	Aggregate	Aggregate	Diesel	3677.523594	0	0.015843112	0	0.578055497	0	0.15%	220.9120792	46.72301825	0	0	0.171825002	0.171825002	0	7.40238E-07	0	2.70085E-05
El Dorado (LT)	2020	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	669.0771933	0	0.004202118	0	0.105169617	0	0.02%	26.26944409	5.556000921	0	0	0.003717394	0.003717394	0	2.3347E-08	0	5.84322E-07
El Dorado (LT)	2020	T6 CAIRP small	Aggregate	Aggregate	Diesel	681.4580142	0	0.005135592	0	0.10711571	0	0.00%	3.491793376	0.738516093	0	0	0.000503268	0.000503268	0	3.79272E-09	0	7.91067E-08
El Dorado (LT)	2020	T6 instate construction heavy	Aggregate	Aggregate	Diesel	674.8972111	0	0.01185341	0	0.106084443	0	0.15%	216.1285267	45.71129443	0	0	0.030850425	0.030850425	0	5.41835E-07	0	4.84926E-06
El Dorado (LT)	2020	T6 instate construction small	Aggregate	Aggregate	Diesel	685.73465	0	0.006723827	0	0.107787938	0	0.25%	366.6527688	77.54724898	0	0	0.053176836	0.053176836	0	5.21414E-07	0	8.35866E-06
El Dorado (LT)	2020	T6 instate heavy	Aggregate	Aggregate	Diesel	650.7551256	0	0.006176536	0	0.102289643	0	0.17%	244.325436	51.67495524	0	0	0.033627742	0.033627742	0	3.19172E-07	0	5.28581E-06
El Dorado (LT)	2020	T6 instate small	Aggregate	Aggregate	Diesel	679.7134996	0	0.007986039	0	0.106841497	0	0.38%	556.0577927	117.6065089	0	0	0.079938732	0.079938732	0	9.3921E-07	0	1.25653E-05
El Dorado (LT)	2020	T6 OOS heavy	Aggregate	Aggregate	Diesel	670.9143661	0	0.004093646	0	0.105458395	0	0.01%	16.29994739	3.447447248	0	0	0.002312942	0.002312942	0	1.41126E-08	0	3.63562E-07
El Dorado (LT)	2020	T6 OOS small	Aggregate	Aggregate	Diesel	679.8982279	0	0.005124748	0	0.106870533	0	0.00%	2.243457088	0.474492327	0	0	0.000322606	0.000322606	0	2.43165E-09	0	5.07092E-08
El Dorado (LT)	2020	T6 Public	Aggregate	Aggregate	Diesel	3469.688465	0	0.016991294	0	0.545386708	0	0.15%	221.0944541	46.76159063	0	0	0.162248152	0.162248152	0	7.9454E-07	0	2.55031E-05
El Dorado (LT)	2020	T6 utility	Aggregate	Aggregate	Diesel	1836.273494	0	0.00662494	0	0.288636622	0	0.01%	9.554962769	2.020879535	0	0	0.003710888	0.003710888	0	1.33882E-08	0	5.833E-07
El Dorado (LT)	2020	T6TS	Aggregate	Aggregate	Gasoline	558.8432971	50.82681809	0.206469606	0.064870882	0.004446098	0.025924681	0.16%	226.6789721	47.94271906	0.011521371	0.011521371	0.026792467	0.026792467	1.47049E-05	9.89871E-06	5.87658E-06	2.13158E-07
El Dorado (LT)	2020	T7 Ag	Aggregate	Aggregate	Diesel	1692.710008	0	0.138676432	0	0.266070441	0	0.00%	2.043893033	0.432284427	0	0	0.000731732	0.000731732	0	5.99477E-08	0	1.15018E-07
El Dorado (LT)	2020	T7 CAIRP	Aggregate	Aggregate	Diesel	25936.47014	0	0.505762266	0	4.076851919	0	0.78%	1132.401699	239.5035411	0	0	6.21187644	6.21187644	0	0.000121132	0	0.00097642
El Dorado (LT)	2020	T7 CAIRP construction	Aggregate	Aggregate	Diesel	3983.137878	0	0.07458077	0	0.626093806	0	0.11%	155.2469982	32.83481987	0	0	0.130785615	0.130785615	0	2.44885E-06	0	2.05577E-05
El Dorado (LT)	2020	T7 NNOOS	Aggregate	Aggregate	Diesel	29812.51959	0	0.651197808	0	4.686112915	0	0.96%	1383.215848	292.5508626	0	0	8.721678321	8.721678321	0	0.000190508	0	0.001370926
El Dorado (LT)	2020	T7 NOOS	Aggregate	Aggregate	Diesel	32282.38112	0	0.631187374	0	5.074340753	0	0.31%	444.0091178	93.90815654	0	0	3.0315789	3.0315789	0	5.92736E-05	0	0.000476522
El Dorado (LT)	2020	T7 Public	Aggregate	Aggregate	Diesel	3374.537699	0	0.056006791	0	0.530430333	0	0.17%	244.2775641	51.66483032	0	0	0.174344918	0.174344918	0	2.89358E-06	0	2.74046E-05
El Dorado (LT)	2020	T7 Single	Aggregate	Aggregate	Diesel	3155.679176	0	0.091347438	0	0.496028821	0	0.06%	80.3584496	16.99585338	0	0	0.053633461	0.053633461	0	1.55253E-06	0	8.43043E-06
El Dorado (LT)	2020	T7 single construction	Aggregate	Aggregate	Diesel	3130.410187	0	0.093246696	0	0.492056888	0	0.27%	385.1392478	81.45714879	0	0	0.254994288	0.254994288	0	7.59561E-06	0	4.00816E-05
El Dorado (LT)	2020	T7 SWCV	Aggregate	Aggregate	Diesel	4292.985127	0	0.068468512	0	0.674797479	0	0.02%	26.79884493	5.667969471	0	0	0.024332509	0.024332509	0	3.88077E-07	0	3.82473E-06
El Dorado (LT)	2020	T7 tractor	Aggregate	Aggregate	Diesel	3808.26014	0	0.094292497	0	0.598605461	0	0.00%	6.213331707	1.314122848	0	0	0.005004522	0.005004522	0	1.23912E-07	0	7.86641E-07
El Dorado (LT)	2020	T7 tractor construction	Aggregate	Aggregate	Diesel	3627.327125	0	0.083119279	0	0.570165311	0	0.22%	317.7059715	67.1949762	0	0	0.24373816	0.24373816	0	5.5852E-06	0	3.83122E-05
El Dorado (LT)	2020	T7 utility	Aggregate	Aggregate	Diesel	1808.80788	0	0.027284345	0	0.28431941	0	0.00%	6.994501103	1.479340577	0	0	0.002675843	0.002675843	0	4.03628E-08	0	4.20605E-07
El Dorado (LT)	2020	T7IS	Aggregate	Aggregate	Gasoline	0	59.67985998	0	0.004242969	0	0.004812506	0.00%	0.221023909	0.04674667	1.31907E-05	1.31907E-05	0	0	9.37797E-10	0	1.06368E-09	0

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: El Dorado (LT)
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Fleet Mix (Population)	VMT	Fleet Mix (VMT)	Trips	Fleet Mix (Trips)
El Dorado (LT)	2018	All Other Buses	Aggregate	Aggregate	Diesel	12.38017475	0.08%	561.1653	0.10%	103.9935	0.13%
El Dorado (LT)	2018	LDA	Aggregate	Aggregate	Gasoline	4363.344996	27.56%	156506.7	28.59%	19549.37	24.42%
El Dorado (LT)	2018	LDA	Aggregate	Aggregate	Diesel	42.55696085	0.27%	1584.241	0.29%	190.9307	0.24%
El Dorado (LT)	2018	LDA	Aggregate	Aggregate	Electricity	25.79119877	0.16%	1072.506	0.20%	131.4535	0.16%
El Dorado (LT)	2018	LDT1	Aggregate	Aggregate	Gasoline	1235.880757	7.81%	40604.29	7.42%	5328.013	6.66%
El Dorado (LT)	2018	LDT1	Aggregate	Aggregate	Diesel	2.739401833	0.02%	43.28951	0.01%	9.391385	0.01%
El Dorado (LT)	2018	LDT1	Aggregate	Aggregate	Electricity	0.161065865	0.00%	6.964698	0.00%	0.831001	0.00%
El Dorado (LT)	2018	LDT2	Aggregate	Aggregate	Gasoline	4814.340102	30.41%	175363.3	32.03%	21569.42	26.94%
El Dorado (LT)	2018	LDT2	Aggregate	Aggregate	Diesel	14.90381371	0.09%	652.4467	0.12%	71.17885	0.09%
El Dorado (LT)	2018	LDT2	Aggregate	Aggregate	Electricity	5.633544662	0.04%	212.9823	0.04%	28.76476	0.04%
El Dorado (LT)	2018	LHD1	Aggregate	Aggregate	Gasoline	516.5253196	3.26%	16613.83	3.03%	7695.458	9.61%
El Dorado (LT)	2018	LHD1	Aggregate	Aggregate	Diesel	411.8599891	2.60%	15454.78	2.82%	5180.681	6.47%
El Dorado (LT)	2018	LHD2	Aggregate	Aggregate	Gasoline	47.17194214	0.30%	1622.554	0.30%	702.7917	0.88%
El Dorado (LT)	2018	LHD2	Aggregate	Aggregate	Diesel	94.23454881	0.60%	3823.104	0.70%	1185.352	1.48%
El Dorado (LT)	2018	MCY	Aggregate	Aggregate	Gasoline	590.0845482	3.73%	3569.053	0.65%	1180.169	1.47%
El Dorado (LT)	2018	MDV	Aggregate	Aggregate	Gasoline	3089.73272	19.51%	101688.3	18.57%	13628.17	17.02%
El Dorado (LT)	2018	MDV	Aggregate	Aggregate	Diesel	46.30208238	0.29%	2083.472	0.38%	220.2046	0.28%
El Dorado (LT)	2018	MDV	Aggregate	Aggregate	Electricity	0.445480715	0.00%	17.37601	0.00%	2.297612	0.00%
El Dorado (LT)	2018	MH	Aggregate	Aggregate	Gasoline	116.8867942	0.74%	954.6891	0.17%	11.69335	0.01%
El Dorado (LT)	2018	MH	Aggregate	Aggregate	Diesel	35.65080199	0.23%	345.1242	0.06%	3.56508	0.00%
El Dorado (LT)	2018	Motor Coach	Aggregate	Aggregate	Diesel	3.950106742	0.02%	495.6429	0.09%	57.67156	0.07%
El Dorado (LT)	2018	OBUS	Aggregate	Aggregate	Gasoline	7.527124739	0.05%	318.8614	0.06%	150.6027	0.19%
El Dorado (LT)	2018	PTO	Aggregate	Aggregate	Diesel	0	0.00%	60.37808	0.01%	0	0.00%
El Dorado (LT)	2018	SBUS	Aggregate	Aggregate	Gasoline	0.170581034	0.00%	8.315922	0.00%	0.682324	0.00%
El Dorado (LT)	2018	SBUS	Aggregate	Aggregate	Diesel	26.90393212	0.17%	835.9305	0.15%	310.4676	0.39%
El Dorado (LT)	2018	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.510583676	0.00%	99.40348	0.02%	7.454522	0.01%
El Dorado (LT)	2018	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.255980458	0.00%	13.21293	0.00%	3.737315	0.00%
El Dorado (LT)	2018	T6 instate construction heavy	Aggregate	Aggregate	Diesel	12.31574948	0.08%	817.8296	0.15%	55.67902	0.07%
El Dorado (LT)	2018	T6 instate construction small	Aggregate	Aggregate	Diesel	27.93282763	0.18%	1387.413	0.25%	126.2832	0.16%
El Dorado (LT)	2018	T6 instate heavy	Aggregate	Aggregate	Diesel	6.552469366	0.04%	924.5266	0.17%	75.61459	0.09%
El Dorado (LT)	2018	T6 instate small	Aggregate	Aggregate	Diesel	47.58400204	0.30%	2104.121	0.38%	549.1128	0.69%
El Dorado (LT)	2018	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.318813678	0.00%	61.67894	0.01%	4.65468	0.01%
El Dorado (LT)	2018	T6 OOS small	Aggregate	Aggregate	Diesel	0.164152243	0.00%	8.489234	0.00%	2.396623	0.00%
El Dorado (LT)	2018	T6 Public	Aggregate	Aggregate	Diesel	52.3371408	0.33%	836.6206	0.15%	158.756	0.20%
El Dorado (LT)	2018	T6 utility	Aggregate	Aggregate	Diesel	2.156291009	0.01%	36.15595	0.01%	24.79735	0.03%
El Dorado (LT)	2018	T6TS	Aggregate	Aggregate	Gasoline	25.66213504	0.16%	857.7524	0.16%	513.448	0.64%
El Dorado (LT)	2018	T7 Ag	Aggregate	Aggregate	Diesel	1	0.01%	7.734084	0.00%	4.4	0.01%
El Dorado (LT)	2018	T7 CAIRP	Aggregate	Aggregate	Diesel	21.93608254	0.14%	4285.004	0.78%	320.2668	0.40%
El Dorado (LT)	2018	T7 CAIRP construction	Aggregate	Aggregate	Diesel	2.993813404	0.02%	587.4541	0.11%	13.53491	0.02%
El Dorado (LT)	2018	T7 NNOOS	Aggregate	Aggregate	Diesel	25.34815592	0.16%	5234.084	0.96%	370.0831	0.46%
El Dorado (LT)	2018	T7 NOOS	Aggregate	Aggregate	Diesel	8.610558278	0.05%	1680.129	0.31%	125.7142	0.16%
El Dorado (LT)	2018	T7 Public	Aggregate	Aggregate	Diesel	45.60408606	0.29%	924.3454	0.17%	138.3324	0.17%
El Dorado (LT)	2018	T7 Single	Aggregate	Aggregate	Diesel	4.461585892	0.03%	304.0761	0.06%	51.48608	0.06%
El Dorado (LT)	2018	T7 single construction	Aggregate	Aggregate	Diesel	21.30571803	0.13%	1457.366	0.27%	96.32232	0.12%
El Dorado (LT)	2018	T7 SWCV	Aggregate	Aggregate	Diesel	2.481907864	0.02%	101.4067	0.02%	9.679441	0.01%
El Dorado (LT)	2018	T7 tractor	Aggregate	Aggregate	Diesel	0.183207717	0.00%	23.51123	0.00%	2.326738	0.00%
El Dorado (LT)	2018	T7 tractor construction	Aggregate	Aggregate	Diesel	17.1728852	0.11%	1202.198	0.22%	77.63795	0.10%
El Dorado (LT)	2018	T7 utility	Aggregate	Aggregate	Diesel	1.303268695	0.01%	26.46717	0.00%	14.98759	0.02%
El Dorado (LT)	2018	T7IS	Aggregate	Aggregate	Gasoline	0.003206087	0.00%	0.836354	0.00%	0.064147	0.00%

SCENARIO	El Dorado County (LT) 2045 - RUNEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	El Dorado (LT)
Calendar Year	2045
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Daily VMT	904,403

SAFE Rule Adjustment Factors	
CO_2	1.1243

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 RUNEX	CH_4 RUNEX	N_2O RUNEX	Percent Speed	Fleet Mix	Vehicle Activity per Day	CO_2 RUNEX Emissions (tons/day)	CO_2 RUNEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 RUNEX Emissions (tons/day)	N_2O RUNEX Emissions (tons/day)
El Dorado (LT)	2045	All Other Buses	Aggregate	5	Diesel	2684.923008	0.003660113	0.422032507	0.002%	0.00%	0.000503739	1.3525E-06	1.3525E-06	1.84374E-12	2.12594E-10
El Dorado (LT)	2045	All Other Buses	Aggregate	10	Diesel	2219.86041	0.002296755	0.348931143	0.004%	0.00%	0.001215016	2.69717E-06	2.69717E-06	2.79059E-12	4.23957E-10
El Dorado (LT)	2045	All Other Buses	Aggregate	15	Diesel	1746.844307	0.001276868	0.274579599	7.450%	0.00%	2.131969841	0.003724219	0.003724219	2.72224E-09	5.85395E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	20	Diesel	1491.777582	0.000867366	0.234486662	0.276%	0.00%	0.07896323	0.000117796	0.000117796	6.849E-11	1.85158E-08
El Dorado (LT)	2045	All Other Buses	Aggregate	25	Diesel	1301.850559	0.000681156	0.204632778	9.798%	0.00%	2.803716808	0.00365002	0.00365002	1.90977E-09	5.73732E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	30	Diesel	1143.723796	0.000550919	0.179777454	3.091%	0.00%	0.88458185	0.001011717	0.001011717	4.87333E-10	1.59028E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	35	Diesel	1022.256309	0.000453716	0.160684456	29.832%	0.00%	8.536671504	0.008726666	0.008726666	3.87322E-09	1.37171E-06
El Dorado (LT)	2045	All Other Buses	Aggregate	40	Diesel	937.4480977	0.000389547	0.147353786	12.574%	0.00%	3.598174602	0.003373102	0.003373102	1.40166E-09	5.30205E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	45	Diesel	889.2991627	0.000358412	0.139785444	18.067%	0.00%	5.170080893	0.004597749	0.004597749	1.85302E-09	7.22702E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	50	Diesel	877.809503	0.00036031	0.13797943	10.102%	0.00%	2.89078655	0.00253756	0.00253756	1.04158E-09	3.98869E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	55	Diesel	902.9791199	0.000395242	0.141935743	8.803%	0.00%	2.519112031	0.002274706	0.002274706	9.95659E-10	3.57552E-07
El Dorado (LT)	2045	All Other Buses	Aggregate	60	Diesel	964.8080136	0.000463208	0.151654384	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	65	Diesel	1063.296183	0.000564208	0.167135353	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	70	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	75	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	All Other Buses	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	LDA	Aggregate	10	Gasoline	369.0862988	0.002617685	0.00548706	0.004%	53.79%	20.65458459	0.007623324	0.008570903	5.40672E-08	1.13333E-07
El Dorado (LT)	2045	LDA	Aggregate	10	Diesel	325.5761107	0.003074699	0.051176031	0.004%	0.67%	0.25718768	8.37342E-05	8.37342E-05	7.90775E-10	1.31618E-08
El Dorado (LT)	2045	LDA	Aggregate	15	Gasoline	301.9261438	0.001737557	0.004844778	7.450%	53.79%	36242.26785	10.94248817	12.30263945	6.2973E-05	0.000175586
El Dorado (LT)	2045	LDA	Aggregate	15	Diesel	267.7854246	0.001502902	0.04209214	7.450%	0.67%	451.2830914	0.120847034	0.120847034	6.78234E-07	1.89955E-05
El Dorado (LT)	2045	LDA	Aggregate	20	Gasoline	251.0435612	0.001216736	0.004346626	0.276%	53.79%	1342.329744	0.336983239	0.378870256	1.63326E-06	5.83461E-06
El Dorado (LT)	2045	LDA	Aggregate	20	Diesel	219.6709971	0.000586093	0.034529222	0.276%	0.67%	16.71448153	0.003671687	0.003671687	9.79625E-09	5.77138E-07
El Dorado (LT)	2045	LDA	Aggregate	25	Gasoline	214.6283676	0.000898852	0.003962646	9.798%	53.79%	47661.58206	10.22952756	11.50105783	4.28407E-05	0.000188866
El Dorado (LT)	2045	LDA	Aggregate	25	Diesel	184.1373804	0.00035253	0.028943832	9.798%	0.67%	593.4746188	0.109280862	0.109280862	2.09218E-07	1.71774E-05
El Dorado (LT)	2045	LDA	Aggregate	30	Gasoline	190.4698923	0.000700508	0.003670813	3.091%	53.79%	15037.38548	2.864169192	3.220185423	1.05338E-05	5.51994E-05
El Dorado (LT)	2045	LDA	Aggregate	30	Diesel	159.4967596	0.000266521	0.025070669	3.091%	0.67%	187.2431889	0.029864682	0.029864682	4.99042E-08	4.69431E-06
El Dorado (LT)	2045	LDA	Aggregate	35	Gasoline	176.5588463	0.000575936	0.00345533	29.832%	53.79%	145118.5327	25.62196072	28.80677044	8.3579E-05	0.000501432
El Dorado (LT)	2045	LDA	Aggregate	35	Diesel	144.1818579	0.000212111	0.02266338	29.832%	0.67%	1806.993435	0.260535671	0.260535671	3.83283E-07	4.09526E-05
El Dorado (LT)	2045	LDA	Aggregate	40	Gasoline	170.8863101	0.000499539	0.003304955	12.574%	53.79%	61166.91014	10.45258757	11.75184421	3.05553E-05	0.000202154
El Dorado (LT)	2045	LDA	Aggregate	40	Diesel	134.9219556	0.000175038	0.021207853	12.574%	0.67%	761.6408669	0.102762075	0.102762075	1.33316E-07	1.61528E-05
El Dorado (LT)	2045	LDA	Aggregate	45	Gasoline	171.4436109	0.000457088	0.00321211	18.067%	53.79%	87888.41798	15.06790774	16.94084867	4.01727E-05	0.000282307
El Dorado (LT)	2045	LDA	Aggregate	45	Diesel	130.3242443	0.000148398	0.020485156	18.067%	0.67%	1094.372933	0.142623325	0.142623325	1.62402E-07	2.24184E-05
El Dorado (LT)	2045	LDA	Aggregate	50	Gasoline	176.4230318	0.00044123	0.003172223	10.102%	53.79%	49141.71787	8.669730857	9.747378402	2.16828E-05	0.000155888
El Dorado (LT)	2045	LDA	Aggregate	50	Diesel	130.6559952	0.000128481	0.020537303	10.102%	0.67%	611.90504	0.079949062	0.079949062	7.86184E-08	1.25669E-05
El Dorado (LT)	2045	LDT1	Aggregate	10	Gasoline	430.0518721	0.002763219	0.005575748	0.004%	4.63%	1.777797291	0.000764545	0.000859578	4.91244E-09	9.91255E-09
El Dorado (LT)	2045	LDT1	Aggregate	10	Diesel	647.091869	0.009527604	0.101713831	0.004%	0.00%	0.000259441	1.67882E-07	1.67882E-07	2.47185E-12	2.63887E-11
El Dorado (LT)	2045	LDT1	Aggregate	15	Gasoline	351.7836349	0.001834159	0.004923084	7.450%	4.63%	3119.472353	1.097379323	1.233783573	5.72161E-06	1.53574E-05
El Dorado (LT)	2045	LDT1	Aggregate	15	Diesel	536.5458058	0.004848308	0.084337529	7.450%	0.00%	0.455236561	0.000244255	0.000244255	2.20713E-09	3.83935E-08
El Dorado (LT)	2045	LDT1	Aggregate	20	Gasoline	292.4868477	0.001284382	0.00441688	0.276%	4.63%	115.5380382	0.033793357	0.037993871	1.48395E-07	5.10318E-07
El Dorado (LT)	2045	LDT1	Aggregate	20	Diesel	440.8133421	0.002107142	0.069289719	0.276%	0.00%	0.016860909	7.43251E-06	7.43251E-06	3.55283E-11	1.16829E-09
El Dorado (LT)	2045	LDT1	Aggregate	25	Gasoline	250.0518982	0.000948825	0.004026694	9.798%	4.63%	4102.364349	1.025803992	1.153311429	3.89243E-06	1.6519E-05
El Dorado (LT)	2045	LDT1	Aggregate	25	Diesel	369.6060969	0.001354378	0.058096931	9.798%	0.00%	0.598673759	0.000221273	0.000221273	8.1083E-10	3.47811E-08
El Dorado (LT)	2045	LDT1	Aggregate	30	Gasoline	221.9022517	0.000739454	0.003730144	3.091%	4.63%	1294.309409	0.287210172	0.322910397	9.57082E-07	4.82796E-06
El Dorado (LT)	2045	LDT1	Aggregate	30	Diesel	319.6046756	0.001051773	0.050237404	3.091%	0.00%	0.188883535	6.03681E-05	6.03681E-05	1.98663E-10	9.48902E-09
El Dorado (LT)	2045	LDT1	Aggregate	35	Gasoline	205.6960443	0.000607956	0.003511179	29.832%	4.63%	12490.75396	2.56929868	2.888662506	7.59383E-06	4.38573E-05
El Dorado (LT)	2045	LDT1	Aggregate	35	Diesel	288.4555031	0.000859979	0.045341188	29.832%	0.00%	1.822823618	0.000525804	0.000525804	1.56759E-09	8.2649E-08
El Dorado (LT)	2045	LDT1	Aggregate	40	Gasoline	199.0918009	0.000527312	0.003358373	12.574%	4.63%	5264.805335	1.048179576	1.178468297	2.77619E-06	1.76812E-05
El Dorado (LT)	2045	LDT1	Aggregate	40	Diesel	269.2214424	0.000732585	0.042317862	12.574%	0.00%	0.768313229	0.000206846	0.000206846	5.62855E-10	3.25134E-08
El Dorado (LT)	2045	LDT1	Aggregate	45	Gasoline	199.7483055	0.0004825	0.003264027	18.067%	4.63%	7564.79951	1.511055884	1.69888013	3.65002E-06	2.46917E-05
El Dorado (LT)	2045	LDT1	Aggregate	45	Diesel	259.5751438	0.000646714	0.040801598	18.067%	0.00%	1.103960197	0.000286561	0.000286561	7.13946E-10	4.50433E-08
El Dorado (LT)	2045	LDT1	Aggregate	50	Gasoline	205.5585573	0.000465761	0.003223496	10.102%	4.63%	4229.763737	0.869464132	0.977538523	1.97006E-06	1.36346E-05
El Dorado (LT)	2045	LDT1	Aggregate	50	Diesel	260.0063567	0.000590392	0.040869378	10.102%	0.00%	0.61726564	0.000160493	0.000160493	3.64429E-10	2.52273E-08
El Dorado (LT)	2045	LDT2	Aggregate	10	Gasoline	435.6296017	0.003774532	0.005481997	0.004%	16.72%	6.421526687	0.002797407	0.003145125	2.42383E-08	3.52028E-08

El Dorado (LT)	2045	LDT2	Aggregate	10	Diesel	435.0993302	0.009427831	0.068391556	0.004%	0.17%	0.06516482	2.83532E-05	2.83532E-05	6.14363E-10	4.45672E-09
El Dorado (LT)	2045	LDT2	Aggregate	15	Gasoline	356.3596208	0.002505444	0.004840307	7.450%	16.72%	11267.74974	4.015371025	4.514481644	2.82307E-05	5.45394E-05
El Dorado (LT)	2045	LDT2	Aggregate	15	Diesel	360.7690529	0.004604982	0.056707871	7.450%	0.17%	114.3436635	0.041251655	0.041251655	5.26551E-07	6.48419E-06
El Dorado (LT)	2045	LDT2	Aggregate	20	Gasoline	296.302892	0.001754454	0.004342615	0.276%	16.72%	417.3313792	0.123656495	0.139026997	7.32189E-07	1.81231E-06
El Dorado (LT)	2045	LDT2	Aggregate	20	Diesel	296.3993199	0.001792079	0.046589845	0.276%	0.17%	4.235024728	0.001255258	0.001255258	7.5895E-09	1.97309E-07
El Dorado (LT)	2045	LDT2	Aggregate	25	Gasoline	253.3222134	0.001296086	0.003958989	9.798%	16.72%	14818.02356	3.753734528	4.22032373	1.92054E-05	5.86644E-05
El Dorado (LT)	2045	LDT2	Aggregate	25	Diesel	248.5201452	0.001076416	0.039063906	9.798%	0.17%	150.3713819	0.037370318	0.037370318	1.61862E-07	5.87409E-06
El Dorado (LT)	2045	LDT2	Aggregate	30	Gasoline	224.8080555	0.001010088	0.003667425	3.091%	16.72%	4675.13504	1.051008018	1.181648314	4.7223E-06	1.71457E-05
El Dorado (LT)	2045	LDT2	Aggregate	30	Diesel	214.8995946	0.000813312	0.033779224	3.091%	0.17%	47.44266424	0.010195409	0.010195409	3.85857E-08	1.60258E-06
El Dorado (LT)	2045	LDT2	Aggregate	35	Gasoline	208.3887468	0.000830462	0.003452142	29.832%	16.72%	45117.46662	9.401972328	10.57063749	3.74683E-05	0.000155752
El Dorado (LT)	2045	LDT2	Aggregate	35	Diesel	193.9551433	0.000646879	0.030487048	29.832%	0.17%	457.8462016	0.088801626	0.088801626	2.96171E-07	1.39584E-05
El Dorado (LT)	2045	LDT2	Aggregate	40	Gasoline	201.6931471	0.000720303	0.003301905	12.574%	16.72%	19016.84075	3.835566458	4.312327369	1.36979E-05	6.27918E-05
El Dorado (LT)	2045	LDT2	Aggregate	40	Diesel	181.0223167	0.000533422	0.028454187	12.574%	0.17%	192.9804343	0.034933765	0.034933765	1.0294E-07	5.4911E-06
El Dorado (LT)	2045	LDT2	Aggregate	45	Gasoline	202.3504621	0.000659091	0.003209146	18.067%	16.72%	27324.57867	5.529141122	6.216413363	1.80094E-05	8.76886E-05
El Dorado (LT)	2045	LDT2	Aggregate	45	Diesel	174.5362237	0.000451792	0.027434664	18.067%	0.17%	277.2862816	0.0483965	0.0483965	1.25276E-07	7.60726E-06
El Dorado (LT)	2045	LDT2	Aggregate	50	Gasoline	208.2271071	0.000636225	0.003169296	10.102%	16.72%	15278.19896	3.181335171	3.576775133	9.72037E-06	4.84211E-05
El Dorado (LT)	2045	LDT2	Aggregate	50	Diesel	174.8261678	0.00039063	0.027480239	10.102%	0.17%	155.0411821	0.027105256	0.027105256	6.05637E-08	4.26057E-06
El Dorado (LT)	2045	LHD1	Aggregate	5	Gasoline	1577.385537	0.007420978	0.014319362	0.002%	1.23%	0.195769418	0.000308804	0.000308804	1.4528E-09	2.80329E-09
El Dorado (LT)	2045	LHD1	Aggregate	5	Diesel	981.8719147	0.035526415	0.154336592	0.002%	0.77%	0.123211466	0.000120978	0.000120978	4.37726E-09	1.9016E-08
El Dorado (LT)	2045	LHD1	Aggregate	10	Gasoline	1280.508533	0.004685786	0.012377758	0.004%	1.23%	0.472194649	0.000604649	0.000604649	2.2126E-09	5.84471E-09
El Dorado (LT)	2045	LHD1	Aggregate	10	Diesel	825.4165451	0.026523756	0.129743986	0.004%	0.77%	0.29718531	0.000245302	0.000245302	7.88247E-09	3.8558E-08
El Dorado (LT)	2045	LHD1	Aggregate	15	Gasoline	1047.202377	0.003111969	0.010921931	7.450%	1.23%	828.5523665	0.867662008	0.867662008	2.57843E-06	9.04939E-06
El Dorado (LT)	2045	LHD1	Aggregate	15	Diesel	539.0660761	0.01317764	0.08473368	7.450%	0.77%	521.4662897	0.281104787	0.281104787	6.8717E-06	4.41858E-05
El Dorado (LT)	2045	LHD1	Aggregate	20	Gasoline	870.4752112	0.002171186	0.009850465	0.276%	1.23%	30.68766256	0.02671285	0.02671285	6.66286E-08	3.02288E-07
El Dorado (LT)	2045	LHD1	Aggregate	20	Diesel	459.4724273	0.005379892	0.072222667	0.276%	0.77%	19.31390481	0.008874207	0.008874207	1.03907E-07	1.3949E-06
El Dorado (LT)	2045	LHD1	Aggregate	25	Gasoline	744.0375875	0.001590841	0.009092751	9.798%	1.23%	1089.614943	0.810714473	0.810714473	1.7334E-06	9.9076E-06
El Dorado (LT)	2045	LHD1	Aggregate	25	Diesel	407.5082837	0.003332763	0.064054627	9.798%	0.77%	685.7713338	0.279457499	0.279457499	2.28551E-06	4.39268E-05
El Dorado (LT)	2045	LHD1	Aggregate	30	Gasoline	660.2086336	0.001241349	0.008406602	3.091%	1.23%	343.7770886	0.226964602	0.226964602	4.26747E-07	2.89E-06
El Dorado (LT)	2045	LHD1	Aggregate	30	Diesel	370.0615766	0.002550629	0.058168526	3.091%	0.77%	216.3631053	0.080067672	0.080067672	5.51862E-07	1.25855E-05
El Dorado (LT)	2045	LHD1	Aggregate	35	Gasoline	611.9972907	0.001007607	0.008064602	29.832%	1.23%	3317.626376	2.030378353	2.030378353	3.34286E-06	2.67553E-05
El Dorado (LT)	2045	LHD1	Aggregate	35	Diesel	370.0615766	0.002055443	0.058168526	29.832%	0.77%	2088.015661	0.772694367	0.772694367	4.2918E-06	0.000121457
El Dorado (LT)	2045	LHD1	Aggregate	40	Gasoline	592.4206878	0.000854497	0.007965192	12.574%	1.23%	1398.366911	0.828421487	0.828421487	1.1949E-06	1.11383E-05
El Dorado (LT)	2045	LHD1	Aggregate	40	Diesel	359.9306829	0.001721703	0.056576091	12.574%	0.77%	880.0906671	0.316771635	0.316771635	1.51525E-06	4.97921E-05
El Dorado (LT)	2045	LHD1	Aggregate	45	Gasoline	594.5021441	0.000787475	0.007661227	18.067%	1.23%	2009.260486	1.194509667	1.194509667	1.58224E-06	1.53934E-05
El Dorado (LT)	2045	LHD1	Aggregate	45	Diesel	351.0840598	0.001488193	0.055185525	18.067%	0.77%	1264.568968	0.443970007	0.443970007	1.88192E-06	6.97859E-05
El Dorado (LT)	2045	LHD1	Aggregate	50	Gasoline	611.9525139	0.000778393	0.00731226	10.102%	1.23%	1123.453058	0.687499923	0.687499923	8.74487E-07	8.21498E-06
El Dorado (LT)	2045	LHD1	Aggregate	50	Diesel	368.0647097	0.001322391	0.057854647	10.102%	0.77%	707.0680399	0.260246793	0.260246793	9.3502E-07	4.09072E-05
El Dorado (LT)	2045	LHD1	Aggregate	55	Gasoline	637.0773384	0.000768439	0.007674606	8.803%	1.23%	979.0083306	0.623704022	0.623704022	7.52308E-07	7.5135E-06
El Dorado (LT)	2045	LHD1	Aggregate	55	Diesel	384.6145599	0.001206433	0.060456053	8.803%	0.77%	616.158812	0.23698365	0.23698365	7.43355E-07	3.72505E-05
El Dorado (LT)	2045	LHD2	Aggregate	5	Gasoline	1763.779925	0.006628554	0.016228336	0.002%	0.11%	0.017714742	3.12449E-05	3.12449E-05	1.17423E-10	2.87481E-10
El Dorado (LT)	2045	LHD2	Aggregate	5	Diesel	1047.867831	0.035709222	0.164710231	0.002%	0.31%	0.049372903	5.17363E-05	5.17363E-05	1.76307E-09	8.13222E-09
El Dorado (LT)	2045	LHD2	Aggregate	10	Gasoline	1431.819274	0.00418543	0.014040752	0.004%	0.11%	0.042727851	6.11786E-05	6.11786E-05	1.78834E-10	5.99931E-10
El Dorado (LT)	2045	LHD2	Aggregate	10	Diesel	931.2728797	0.026636693	0.146383128	0.004%	0.31%	0.119087143	0.000110903	0.000110903	3.17209E-09	1.74323E-08
El Dorado (LT)	2045	LHD2	Aggregate	15	Gasoline	1170.940538	0.002779668	0.012391741	7.450%	0.11%	74.97387429	0.087789949	0.087789949	2.08402E-07	9.29057E-07
El Dorado (LT)	2045	LHD2	Aggregate	15	Diesel	619.9203523	0.013309008	0.097442846	7.450%	0.31%	208.960298	0.129538742	0.129538742	2.78105E-06	2.03617E-05
El Dorado (LT)	2045	LHD2	Aggregate	20	Gasoline	973.3274464	0.001939343	0.011165522	0.276%	0.11%	2.77685883	0.002702793	0.002702793	5.38528E-09	3.10051E-08
El Dorado (LT)	2045	LHD2	Aggregate	20	Diesel	528.7464548	0.005517314	0.083111579	0.276%	0.31%	7.739405947	0.004092183	0.004092183	4.27007E-08	6.43234E-07
El Dorado (LT)	2045	LHD2	Aggregate	25	Gasoline	831.9480684	0.001420968	0.010304802	9.798%	0.11%	98.59685043	0.082027459	0.082027459	1.40103E-07	1.01602E-06
El Dorado (LT)	2045	LHD2	Aggregate	25	Diesel	471.1958202	0.003450048	0.074065421	9.798%	0.31%	274.8000879	0.129484653	0.129484653	9.48074E-07	2.03532E-05
El Dorado (LT)	2045	LHD2	Aggregate	30	Gasoline	738.2132378	0.001108796	0.009526719	3.091%	0.11%	31.10762972	0.022964064	0.022964064	3.4492E-08	2.96354E-07
El Dorado (LT)	2045	LHD2	Aggregate	30	Diesel	424.9434698	0.002650385	0.066795196	3.091%	0.31%	86.70032913	0.036842739	0.036842739	2.29789E-07	5.79117E-06
El Dorado (LT)	2045	LHD2	Aggregate	35	Gasoline	684.307019	0.000900013	0.009134998	29.832%	0.11%	300.2046858	0.205432174	0.205432174	2.70188E-07	2.74237E-06
El Dorado (LT)	2045	LHD2	Aggregate	35	Diesel	424.9434698	0.002143964	0.066795196	29.832%	0.31%	836.7029341	0.355551448	0.355551448	1.79386E-06	5.58877E-05
El Dorado (LT)	2045	LHD2	Aggregate	40	Gasoline	662.4207685	0.000763252	0.009021826	12.574%	0.11%	126.5351344	0.083819501	0.083819501	9.65782E-08	1.14158E-06
El Dorado (LT)	2045	LHD2	Aggregate	40	Diesel	409.4225147	0.001803877	0.064355518	12.574%	0.31%	352.6671075	0.144389854	0.144389854	6.36168E-07	2.26961E-05
El Dorado (LT)	2045	LHD2	Aggregate	45	Gasoline	664.7513738	0.000703387	0.008672571	18.067%	0.11%	181.8135451	0.120860804	0.120860804	1.27885E-07	1.57679E-06
El Dorado (LT)	2045	LHD2	Aggregate	45	Diesel	393.5555999	0.001568066	0.06186146	18.067%	0.31%	506.7340181	0.19942801	0.19942801	7.94593E-07	3.13473E-05
El Dorado (LT)	2045	LHD2	Aggregate	50	Gasoline	684.2669485	0.000695274	0.008281374	10.102%	0.11%	101.6587867	0.069561748	0.069561748	7.06808E-08	8.41874E-07
El Dorado (LT)	2045	LHD2	Aggregate	50	Diesel	408.050915	0.00140368	0.064139921	10.102%	0.31%	283.3340356	0.115614712	0.115614712	3.9771E-07	1.8173E-05
El Dorado (LT)	2045	LHD2	Aggregate	55	Gasoline	712.3660371	0.000686384	0.008692845	8.803%	0.11%	88.58830229	0.063107298	0.063107298	6.08056E-08	7.70084E-07
El Dorado (LT)	2045	LHD2	Aggregate	55	Diesel	422.3523511	0.001293012	0.066387908	8.803%	0.31%	246.9051816	0.104280984	0.104280984	3.19251E-07	1.63915E-05
El Dorado (LT)	2045	MCY	Aggregate	10	Gasoline	437.2984225	1.247149547	0.091489975	0.004%	0.37%	0.1430688	6.25638E-05	6.25638E-05	1.78428E-07	1.30894E-08
El Dorado (LT)	2045	MCY	Aggregate	15	Gasoline	352.3040388	0.854231	0.083634736	7.450%	0.37%	251.0405254	0.088442591	0.088442591	0.000214447	2.09957E-05
El Dorado (LT)	2045	MCY	Aggregate	20	Gasoline	290.6104424	0.616627243	0.077754529	0.276%	0.37%	9.297960206	0.002702084	0.002702084	5.73338E-06	7.22959E-07
El Dorado (LT)	2045	MCY	Aggregate	25	Gasoline	247.3374265	0.468892301	0.073441161	9.798%	0.37%	330.13907	0.081655748	0.081655748	0.0001548	2.42458E-05
El Dorado (LT)	2045	MCY	Aggregate	30	Gasoline	218.6519678	0.375445429	0.070394038	3.091%	0.37%	104.1599595	0.02277478	0.02277478	3.91064E-05	7.33224E-06
El Dorado (LT)	2045	MCY	Aggregate	35	Gasoline	201.6862985	0.316431379	0.068396772	29.832%	0.37%	1005.197381	0.202734539	0.202734539	0.000318076	6.87523E-05
El Dorado (LT)	2045	MCY	Aggregate	40	Gasoline	194.0250005	0.280621454	0.067294815	12.574%	0.37%	423.6868765	0.082205846	0.082205846	0.000118896	2.85119E-05
El Dorado (LT)	2045	MCY	Aggregate	45	Gasoline	193.5426672	0.261780759	0.066983475	18.067%	0.37%	608.779636	0.117824834	0.117824834	0.000159367	4.07782E-05
El Dorado (LT)	2045	MCY	Aggregate	50	Gasoline	198.5195338	0.256812684	0.067398214	10.102%	0.37%	340.3915761	0.067574377	0.067574377	8.74169E-05	2.29418E-05
El Dorado (LT)	2045	MDV	Aggregate	10	Gasoline	528.2011499	0.004317056	0.005840929	0.004%	9.99%	3.835699442	0.002026021	0.002277855	1.65589E-08	2.2404E-08
El Dorado (LT)	2045	MDV	Aggregate	10	Diesel	537.1960362	0.003338639	0.084439736	0.004%	0.36%	0.137504824	7.3867E-05	7.3867E-05	4.59079E-10	1.16109E-08
El Dorado (LT)	2045	MDV	Aggregate	15	Gasoline	432.067135	0.002865559	0.005157225	7.450%	9.99%	6730.440205	2.908002017	3.269466668	1.92865E-05	3.47104E-05
El Dorado (LT)	2045	MDV	Aggregate	15	Diesel	455.5783131	0.001638456	0.071610567	7.450%	0.36%	241.2775056	0.109920799	0.109920799	3.95323E-07	1.7278E-05

El Dorado (LT)	2045	MDV	Aggregate	20	Gasoline	359.2361542	0.002006627	0.004626946	0.276%	9.99%	249.2799324	0.089550364	0.100681475	5.00212E-07	1.1534E-06
El Dorado (LT)	2045	MDV	Aggregate	20	Diesel	378.3559852	0.000646358	0.059472292	0.276%	0.36%	8.936360543	0.003381125	0.003381125	5.77609E-09	5.31466E-07
El Dorado (LT)	2045	MDV	Aggregate	25	Gasoline	307.1160315	0.001482376	0.004218203	9.798%	9.99%	8851.085962	2.718310395	3.056196378	1.31206E-05	3.73357E-05
El Dorado (LT)	2045	MDV	Aggregate	25	Diesel	319.9389176	0.000391753	0.050289942	9.798%	0.36%	317.2998909	0.101516584	0.101516584	1.24303E-07	1.5957E-05
El Dorado (LT)	2045	MDV	Aggregate	30	Gasoline	272.5416897	0.00115527	0.003907549	3.091%	9.99%	2792.546654	0.761085384	0.855688297	3.22615E-06	1.0912E-05
El Dorado (LT)	2045	MDV	Aggregate	30	Diesel	276.3275897	0.000297126	0.043434849	3.091%	0.36%	100.1091564	0.027662922	0.027662922	2.9745E-08	4.34823E-06
El Dorado (LT)	2045	MDV	Aggregate	35	Gasoline	252.6365574	0.000949827	0.00367817	29.832%	9.99%	26949.51683	6.808433157	7.654721398	2.55974E-05	9.91249E-05
El Dorado (LT)	2045	MDV	Aggregate	35	Diesel	250.7290756	0.000237252	0.039411119	29.832%	0.36%	966.1050392	0.242230623	0.242230623	2.2921E-07	3.80753E-05
El Dorado (LT)	2045	MDV	Aggregate	40	Gasoline	244.5246963	0.000823834	0.003518096	12.574%	9.99%	11359.11894	2.77758511	3.122838939	9.35803E-06	3.99625E-05
El Dorado (LT)	2045	MDV	Aggregate	40	Diesel	234.5225622	0.000196569	0.036863681	12.574%	0.36%	407.2096031	0.095499839	0.095499839	8.00448E-08	1.50112E-05
El Dorado (LT)	2045	MDV	Aggregate	45	Gasoline	245.3305734	0.000753824	0.003419264	18.067%	9.99%	16321.48806	4.004160025	4.501877116	1.23035E-05	5.58075E-05
El Dorado (LT)	2045	MDV	Aggregate	45	Diesel	225.6941	0.000167528	0.03547597	18.067%	0.36%	585.1040656	0.132054536	0.132054536	9.80213E-08	2.07571E-05
El Dorado (LT)	2045	MDV	Aggregate	50	Gasoline	252.4663661	0.000727671	0.003376804	10.102%	9.99%	9125.957435	2.303997311	2.590384177	6.6407E-06	3.08166E-05
El Dorado (LT)	2045	MDV	Aggregate	50	Diesel	226.8250471	0.000146086	0.035653739	10.102%	0.36%	327.1536748	0.074206648	0.074206648	4.77927E-08	1.16643E-05
El Dorado (LT)	2045	MH	Aggregate	5	Gasoline	3177.801829	0.020421045	0.033695274	0.002%	0.04%	0.005602517	1.78037E-05	1.78037E-05	1.14409E-10	1.88778E-10
El Dorado (LT)	2045	MH	Aggregate	5	Diesel	1741.661853	0.040953337	0.273764989	0.002%	0.02%	0.002913824	5.0749E-06	5.0749E-06	1.19331E-10	7.97703E-10
El Dorado (LT)	2045	MH	Aggregate	10	Gasoline	2579.67666	0.012847439	0.029282472	0.004%	0.04%	0.013513237	3.48598E-05	3.48598E-05	1.7361E-10	3.95701E-10
El Dorado (LT)	2045	MH	Aggregate	10	Diesel	1581.436449	0.030691288	0.248579787	0.004%	0.02%	0.007028127	1.11145E-05	1.11145E-05	2.15702E-10	1.74705E-09
El Dorado (LT)	2045	MH	Aggregate	15	Gasoline	2109.638566	0.008567392	0.025692811	7.450%	0.04%	23.71145944	0.050022609	0.050022609	2.03145E-07	6.09214E-07
El Dorado (LT)	2045	MH	Aggregate	15	Diesel	1298.496411	0.015122305	0.204105553	7.450%	0.02%	12.33214079	0.016013241	0.016013241	1.8649E-07	2.51706E-06
El Dorado (LT)	2045	MH	Aggregate	20	Gasoline	1753.593666	0.005996753	0.023065958	0.276%	0.04%	0.878217594	0.001540037	0.001540037	5.26645E-09	2.02569E-08
El Dorado (LT)	2045	MH	Aggregate	20	Diesel	1065.570734	0.006160142	0.16749288	0.276%	0.02%	0.456753961	0.000486704	0.000486704	2.81367E-09	7.6503E-08
El Dorado (LT)	2045	MH	Aggregate	25	Gasoline	1498.871402	0.00442668	0.021043331	9.798%	0.04%	31.18253181	0.046738605	0.046738605	1.38035E-07	6.56184E-07
El Dorado (LT)	2045	MH	Aggregate	25	Diesel	955.7736406	0.003960395	0.150234306	9.798%	0.02%	16.21778589	0.015500532	0.015500532	6.42288E-08	2.43647E-06
El Dorado (LT)	2045	MH	Aggregate	30	Gasoline	1329.989344	0.003450709	0.019496072	3.091%	0.04%	9.83819107	0.013084689	0.013084689	3.39487E-08	1.91806E-07
El Dorado (LT)	2045	MH	Aggregate	30	Diesel	897.1380872	0.003108033	0.141017614	3.091%	0.02%	5.116764645	0.004590444	0.004590444	1.59031E-08	7.21554E-07
El Dorado (LT)	2045	MH	Aggregate	35	Gasoline	1232.872532	0.002827798	0.01843044	29.832%	0.04%	94.94362267	0.117053384	0.117053384	2.68481E-07	1.74985E-06
El Dorado (LT)	2045	MH	Aggregate	35	Diesel	848.4778476	0.002532018	0.133368902	29.832%	0.02%	49.37942029	0.041897344	0.041897344	1.2503E-07	6.58568E-06
El Dorado (LT)	2045	MH	Aggregate	40	Gasoline	1193.449813	0.002443953	0.017719583	12.574%	0.04%	40.0183762	0.047759924	0.047759924	9.7803E-08	7.09109E-07
El Dorado (LT)	2045	MH	Aggregate	40	Diesel	809.7929216	0.002122461	0.12728817	12.574%	0.02%	20.81323803	0.016854413	0.016854413	4.41753E-08	2.64928E-06
El Dorado (LT)	2045	MH	Aggregate	45	Gasoline	1197.651242	0.002242287	0.017145079	18.067%	0.04%	57.50089004	0.068866012	0.068866012	1.28933E-07	9.85857E-07
El Dorado (LT)	2045	MH	Aggregate	45	Diesel	781.0833093	0.001826188	0.122775419	18.067%	0.02%	29.90575393	0.023358885	0.023358885	5.46135E-08	3.67169E-06
El Dorado (LT)	2045	MH	Aggregate	50	Gasoline	1232.809177	0.002153832	0.017067712	10.102%	0.04%	32.15090885	0.039635935	0.039635935	6.92477E-08	5.48742E-07
El Dorado (LT)	2045	MH	Aggregate	50	Diesel	762.3490106	0.001614628	0.119830648	10.102%	0.02%	16.72143106	0.012747566	0.012747566	2.69989E-08	2.00374E-06
El Dorado (LT)	2045	MH	Aggregate	55	Gasoline	1283.447015	0.00217476	0.017338025	8.803%	0.04%	28.01719875	0.03595859	0.03595859	6.09307E-08	4.85763E-07
El Dorado (LT)	2045	MH	Aggregate	55	Diesel	753.5900256	0.001471184	0.118453858	8.803%	0.02%	14.57152143	0.010980953	0.010980953	2.14374E-08	1.72605E-06
El Dorado (LT)	2045	MH	Aggregate	60	Gasoline	1335.496171	0.002329346	0.017734251	0.000%	0.04%	0	0	0	0	0
El Dorado (LT)	2045	MH	Aggregate	60	Diesel	754.8063543	0.00143043	0.118645048	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2045	MH	Aggregate	65	Gasoline	1376.295122	0.002671703	0.018071809	0.000%	0.04%	0	0	0	0	0
El Dorado (LT)	2045	MH	Aggregate	65	Diesel	765.9979967	0.001473055	0.120404218	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	5	Diesel	2918.335979	0.005201731	0.458721776	0.002%	0.09%	0.013867456	4.04699E-05	4.04699E-05	7.21348E-11	6.3613E-09
El Dorado (LT)	2045	Motor Coach	Aggregate	10	Diesel	2412.843304	0.003264134	0.379265367	0.004%	0.09%	0.033448219	8.07053E-05	8.07053E-05	1.09179E-10	1.26858E-08
El Dorado (LT)	2045	Motor Coach	Aggregate	15	Diesel	1898.70569	0.001814677	0.298450093	7.450%	0.09%	58.6910529	0.111437036	0.111437036	1.06505E-07	1.75164E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	20	Diesel	1621.464815	0.001232696	0.254871689	0.276%	0.09%	2.173780801	0.003524709	0.003524709	2.67961E-09	5.54035E-07
El Dorado (LT)	2045	Motor Coach	Aggregate	25	Diesel	1415.026544	0.000968054	0.222422467	9.798%	0.09%	77.18359254	0.109216832	0.109216832	7.47179E-08	1.71674E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	30	Diesel	1243.153079	0.000782963	0.195406352	3.091%	0.09%	24.35167662	0.030272862	0.030272862	1.90665E-08	4.75847E-06
El Dorado (LT)	2045	Motor Coach	Aggregate	35	Diesel	1111.125853	0.000644818	0.174653511	29.832%	0.09%	235.0062507	0.261121521	0.261121521	1.51536E-07	4.10447E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	40	Diesel	1018.944865	0.000553622	0.160163943	12.574%	0.09%	99.0542417	0.100930811	0.100930811	5.48386E-08	1.58649E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	45	Diesel	966.610117	0.000509372	0.15193765	18.067%	0.09%	142.3272906	0.137574999	0.137574999	7.24976E-08	2.16249E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	50	Diesel	954.1216071	0.00051207	0.14997463	10.102%	0.09%	79.58053771	0.075929511	0.075929511	4.07508E-08	1.19351E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	55	Diesel	981.4793371	0.000561716	0.154274884	8.803%	0.09%	69.34870027	0.068064316	0.068064316	3.89542E-08	1.06988E-05
El Dorado (LT)	2045	Motor Coach	Aggregate	60	Diesel	1048.683307	0.000658308	0.164838412	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	65	Diesel	1155.733515	0.000801848	0.181665214	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	70	Diesel	1155.733515	0.000992083	0.181665214	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	75	Diesel	1155.733515	0.001229204	0.181665214	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	80	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	85	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	90	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
El Dorado (LT)	2045	OBUS	Aggregate	5	Gasoline	3153.871963	0.023894328	0.045226974	0.002%	0.03%	0.004013674	1.26586E-05	1.26586E-05	9.5904E-11	1.81526E-10
El Dorado (LT)	2045	OBUS	Aggregate	10	Gasoline	2560.264982	0.015032577	0.039303957	0.004%	0.03%	0.009680956	2.47858E-05	2.47858E-05	1.4553E-10	3.805E-10
El Dorado (LT)	2045	OBUS	Aggregate	15	Gasoline	2093.789765	0.010024565	0.034485789	7.450%	0.03%	16.98701826	0.035567245	0.035567245	1.70287E-07	5.85811E-07
El Dorado (LT)	2045	OBUS	Aggregate	20	Gasoline	1740.443072	0.007016702	0.030959934	0.276%	0.03%	0.629159852	0.001095017	0.001095017	4.41463E-09	1.94787E-08
El Dorado (LT)	2045	OBUS	Aggregate	25	Gasoline	1487.647612	0.005179585	0.028245094	9.798%	0.03%	22.33933505	0.033233058	0.033233058	1.15708E-07	6.30977E-07
El Dorado (LT)	2045	OBUS	Aggregate	30	Gasoline	1320.037113	0.004037618	0.026168309	3.091%	0.03%	7.048133487	0.009303798	0.009303798	2.84577E-08	1.84438E-07
El Dorado (LT)	2045	OBUS	Aggregate	35	Gasoline	1223.641685	0.00330876	0.02473798	29.832%	0.03%	68.01812666	0.083229815	0.083229815	2.25056E-07	1.68263E-06
El Dorado (LT)	2045	OBUS	Aggregate	40	Gasoline	1184.49871	0.00285963	0.023783843	12.574%	0.03%	28.66938194	0.033958846	0.033958846	8.19838E-08	6.81868E-07
El Dorado (LT)	2045	OBUS	Aggregate	45	Gasoline	1188.647807	0.002623663	0.023012724	18.067%	0.03%	41.19394975	0.048965098	0.048965098	1.08079E-07	9.47985E-07
El Dorado (LT)	2045	OBUS	Aggregate	50	Gasoline	1223.515143	0.002520163	0.022908879	10.102%	0.03%	23.03308562	0.028181329	0.028181329	5.80471E-08	5.27662E-07
El Dorado (LT)	2045	OBUS	Aggregate	55	Gasoline	1273.744754	0.002544651	0.023271703	8.803%	0.03%	20.07167327	0.025566189	0.025566189	5.10754E-08	4.67102E-07
El Dorado (LT)	2045	OBUS	Aggregate	60	Gasoline	1325.37872	0.00272553	0.023803532	0.000%	0.03%	0	0	0	0	0
El Dorado (LT)	2045	OBUS	Aggregate	65	Gasoline	1365.8552	0.003126116	0.024256613	0.000%	0.03%	0	0	0	0	0
El Dorado (LT)	2045	PTO	Aggregate	20	Diesel	1486.965973	0.001173825	0.233730344	0.276%	0.03%	0.763945133	0.00113596	0.00113596	8.96738E-10	1.78557E-07
El Dorado (LT)	2045	SBUS	Aggregate	5	Gasoline	1518.457271	0.012466814	0.022731737	0.002%	0.02%	0.002914265	4.42519E-06	4.42519E-06	3.63316E-11	6.62463E-11
El Dorado (LT)	2045	SBUS	Aggregate	5	Diesel	1962.021774	0.002418934	0.3084025	0.002%	0.10%	0.016663729	3.26946E-05	3.26946E-05	4.03085E-11	5.13914E-09

El Dorado (LT)	2045	SBUS	Aggregate	10	Gasoline	1232.661177	0.007864022	0.019679916	0.004%	0.02%	0.00702919	8.66461E-06	8.66461E-06	5.52777E-11	1.38334E-10
El Dorado (LT)	2045	SBUS	Aggregate	10	Diesel	1622.208238	0.001518846	0.254988544	0.004%	0.10%	0.040192812	6.52011E-05	6.52011E-05	6.10467E-11	1.02487E-08
El Dorado (LT)	2045	SBUS	Aggregate	15	Gasoline	1008.071864	0.00521995	0.017376303	7.450%	0.02%	12.33400596	0.012433564	0.012433564	6.43829E-08	2.14319E-07
El Dorado (LT)	2045	SBUS	Aggregate	15	Diesel	1276.557635	0.000844268	0.200657083	7.450%	0.10%	70.52568217	0.090030098	0.090030098	5.95425E-08	1.41515E-05
El Dorado (LT)	2045	SBUS	Aggregate	20	Gasoline	837.9520619	0.003656279	0.015583607	0.276%	0.02%	0.456823042	0.000382796	0.000382796	1.67027E-09	7.11895E-09
El Dorado (LT)	2045	SBUS	Aggregate	20	Diesel	1090.153812	0.000573039	0.171356998	0.276%	0.10%	2.612108086	0.0028476	0.0028476	1.49684E-09	4.47603E-07
El Dorado (LT)	2045	SBUS	Aggregate	25	Gasoline	716.2426463	0.002699866	0.01421592	9.798%	0.02%	16.22023874	0.011617627	0.011617627	4.37925E-08	2.30586E-07
El Dorado (LT)	2045	SBUS	Aggregate	25	Diesel	951.3671445	0.000449996	0.149541667	9.798%	0.10%	92.74710961	0.088236553	0.088236553	4.17359E-08	1.38696E-05
El Dorado (LT)	2045	SBUS	Aggregate	30	Gasoline	635.5450707	0.002103276	0.01317649	3.091%	0.02%	5.117538529	0.003252426	0.003252426	1.07636E-08	6.74312E-08
El Dorado (LT)	2045	SBUS	Aggregate	30	Diesel	835.8250859	0.000363997	0.131380064	3.091%	0.10%	29.26201731	0.024457928	0.024457928	1.06513E-08	3.84445E-06
El Dorado (LT)	2045	SBUS	Aggregate	35	Gasoline	589.1341039	0.001725004	0.012447066	29.832%	0.02%	49.38688867	0.0290955	0.0290955	8.51926E-08	6.14722E-07
El Dorado (LT)	2045	SBUS	Aggregate	35	Diesel	747.0689553	0.000299796	0.117428836	29.832%	0.10%	282.3935732	0.210967472	0.210967472	8.46605E-08	3.31611E-05
El Dorado (LT)	2045	SBUS	Aggregate	40	Gasoline	570.2873305	0.001493704	0.011933796	12.574%	0.02%	20.81638592	0.011871321	0.011871321	3.10935E-08	2.48419E-07
El Dorado (LT)	2045	SBUS	Aggregate	40	Diesel	685.0984452	0.000257391	0.107687935	12.574%	0.10%	119.0278181	0.081545773	0.081545773	3.06366E-08	1.28179E-05
El Dorado (LT)	2045	SBUS	Aggregate	45	Gasoline	572.2819758	0.001365625	0.01161243	18.067%	0.02%	29.91027701	0.017117112	0.017117112	4.08462E-08	3.47331E-07
El Dorado (LT)	2045	SBUS	Aggregate	45	Diesel	649.913376	0.000236776	0.102157332	18.067%	0.10%	171.0265665	0.111152453	0.111152453	4.0495E-08	1.74716E-05
El Dorado (LT)	2045	SBUS	Aggregate	50	Gasoline	589.0686023	0.001322179	0.011419314	10.102%	0.02%	16.72396009	0.00985156	0.00985156	2.21121E-08	1.90976E-07
El Dorado (LT)	2045	SBUS	Aggregate	50	Diesel	641.5136329	0.000237951	0.100837009	10.102%	0.10%	95.62738156	0.061346269	0.061346269	2.27546E-08	9.64278E-06
El Dorado (LT)	2045	SBUS	Aggregate	55	Gasoline	613.2480662	0.001327651	0.011689898	8.803%	0.02%	14.5737253	0.008937309	0.008937309	1.93488E-08	1.70365E-07
El Dorado (LT)	2045	SBUS	Aggregate	55	Diesel	659.8991407	0.000260913	0.103726955	8.803%	0.10%	83.33236759	0.054990958	0.054990958	2.17425E-08	8.64381E-06
El Dorado (LT)	2045	SBUS	Aggregate	60	Gasoline	638.1068065	0.001430968	0.011866113	0.000%	0.02%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	60	Diesel	705.0701714	0.000305676	0.110827212	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	65	Diesel	777.0251328	0.000372227	0.12213753	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	70	Diesel	777.0251328	0.000456469	0.12213753	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	75	Diesel	777.0251328	0.000561474	0.12213753	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	80	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	85	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	90	Diesel	0	0	0	0.000%	0.10%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	5	Diesel	2428.454494	0.003197197	0.381719228	0.002%	0.00%	3.16302E-06	7.68124E-09	7.68124E-09	1.01128E-14	1.20738E-12
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	10	Diesel	2007.815484	0.00200627	0.315600634	0.004%	0.00%	7.62918E-06	1.5318E-08	1.5318E-08	1.53062E-14	2.40777E-12
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	15	Diesel	1579.982702	0.001115375	0.248351278	7.450%	0.00%	0.013386796	2.11509E-05	2.11509E-05	1.49313E-11	3.32463E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	20	Diesel	1347.828658	0.000757665	0.211859895	0.276%	0.00%	0.000495816	6.68275E-07	6.68275E-07	3.75663E-13	1.05044E-10
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	25	Diesel	1175.030199	0.000595006	0.184698384	9.798%	0.00%	0.017604745	2.06861E-05	2.06861E-05	1.04749E-11	3.25157E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	30	Diesel	1030.713095	0.000481241	0.162013745	3.091%	0.00%	0.005554355	5.72495E-06	5.72495E-06	2.67298E-12	8.99882E-10
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	35	Diesel	919.2849949	0.000396332	0.144498799	29.832%	0.00%	0.053602392	4.92759E-05	4.92759E-05	2.12443E-11	7.74548E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	40	Diesel	838.1375096	0.000340279	0.131743545	12.574%	0.00%	0.022593204	1.89362E-05	1.89362E-05	7.68798E-12	2.97651E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	45	Diesel	794.4811965	0.000313081	0.12488138	18.067%	0.00%	0.03246332	2.57915E-05	2.57915E-05	1.01637E-11	4.05406E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	50	Diesel	780.5917968	0.000314739	0.12269816	10.102%	0.00%	0.018151463	1.41689E-05	1.41689E-05	5.71298E-12	2.22715E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	55	Diesel	798.4376645	0.000345253	0.125503282	8.803%	0.00%	0.015817691	1.26294E-05	1.26294E-05	5.46111E-12	1.98517E-09
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	60	Diesel	847.2719117	0.000404623	0.133179346	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	65	Diesel	933.7619263	0.000492849	0.146774371	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	70	Diesel	933.7619263	0.000586038	0.146774371	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	75	Diesel	933.7619263	0.000702194	0.146774371	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	5	Diesel	2451.574073	0.003177647	0.385353304	0.002%	0.00%	4.56643E-07	1.11949E-09	1.11949E-09	1.45105E-15	1.75969E-13
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	10	Diesel	2026.930459	0.001994002	0.318605242	0.004%	0.00%	1.10142E-06	2.2325E-09	2.2325E-09	2.19623E-15	3.50918E-13
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	15	Diesel	1595.024587	0.001108555	0.250715653	7.450%	0.00%	0.001932644	3.08261E-06	3.08261E-06	2.14244E-12	4.84544E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	20	Diesel	1362.125927	0.000753032	0.214107227	0.276%	0.00%	7.15807E-05	9.75019E-08	9.75019E-08	5.39025E-14	1.53259E-11
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	25	Diesel	1188.705623	0.000591367	0.18684797	9.798%	0.00%	0.002541586	3.0212E-06	3.0212E-06	1.50301E-12	4.7489E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	30	Diesel	1044.321792	0.000478298	0.164152843	3.091%	0.00%	0.000801879	8.3742E-07	8.3742E-07	3.83537E-13	1.31631E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	35	Diesel	933.4111469	0.000393908	0.146719234	29.832%	0.00%	0.007738545	7.22324E-06	7.22324E-06	3.04828E-12	1.13539E-09
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	40	Diesel	855.9736887	0.000338198	0.134547144	12.574%	0.00%	0.003261767	2.79199E-06	2.79199E-06	1.10312E-12	4.38861E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	45	Diesel	812.0094185	0.000311167	0.127636573	18.067%	0.00%	0.00468671	3.80565E-06	3.80565E-06	1.45835E-12	5.98196E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	50	Diesel	801.5183348	0.000312815	0.12598752	10.102%	0.00%	0.002620516	2.10039E-06	2.10039E-06	8.19736E-13	3.30152E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	55	Diesel	824.500439	0.000343142	0.129599987	8.803%	0.00%	0.002283591	1.88282E-06	1.88282E-06	7.83596E-13	2.95953E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	60	Diesel	880.9557311	0.000402149	0.138473973	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	65	Diesel	970.8842098	0.000489835	0.152609477	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	70	Diesel	970.8842098	0.000585754	0.152609477	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	75	Diesel	970.8842098	0.000705312	0.152609477	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	5	Diesel	2014.123843	0.002725764	0.31659222	0.002%	0.20%	0.032070666	6.45943E-05	6.45943E-05	8.74171E-11	1.01533E-08
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	10	Diesel	1665.397425	0.001716112	0.261777283	0.004%	0.20%	0.077354252	0.000128826	0.000128826	1.32749E-10	2.02496E-08
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	15	Diesel	1310.594558	0.000953573	0.206007213	7.450%	0.20%	135.7322636	0.177889966	0.177889966	1.29431E-07	2.79618E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	20	Diesel	1119.197632	0.000645099	0.175922282	0.276%	0.20%	5.027208989	0.00562644	0.00562644	3.24305E-09	8.84398E-07
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	25	Diesel	976.7369355	0.000506362	0.153529444	9.798%	0.20%	178.4991615	0.174346724	0.174346724	9.03851E-08	2.74049E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	30	Diesel	858.1597676	0.00040965	0.134890765	3.091%	0.20%	56.31707096	0.048329045	0.048329045	2.30703E-08	7.59665E-06
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	35	Diesel	767.0696552	0.000337404	0.120572668	29.832%	0.20%	543.4888077	0.416893772	0.416893772	1.83376E-07	6.55299E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	40	Diesel	703.4654152	0.000289589	0.110574967	12.574%	0.20%	229.0784674	0.161148779	0.161148779	6.63387E-08	2.53303E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	45	Diesel	667.3463553	0.000266178	0.104897554	18.067%	0.20%	329.154179	0.219659842	0.219659842	8.76135E-08	3.45275E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	50	Diesel	658.7120366	0.000267149	0.103540359	10.102%	0.20%	184.0424731	0.121230992	0.121230992	4.91668E-08	1.90558E-05

El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	55	Diesel	677.5621673	0.000292489	0.106503337	8.803%	0.20%	160.3797445	0.108667247	0.108667247	4.69093E-08	1.7081E-05
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	60	Diesel	723.897573	0.000342234	0.113786618	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	65	Diesel	797.7112487	0.000416278	0.1253891	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	70	Diesel	797.7112487	0.000508783	0.1253891	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	75	Diesel	797.7112487	0.000624086	0.1253891	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	5	Diesel	1896.66016	0.002399732	0.298128565	0.002%	0.34%	0.054406508	0.000103191	0.000103191	1.30561E-10	1.62201E-08
El Dorado (LT)	2045	T6 instate construction small	Aggregate	10	Diesel	1568.136592	0.001505946	0.246489235	0.004%	0.34%	0.131228168	0.000205784	0.000205784	1.97623E-10	3.23463E-08
El Dorado (LT)	2045	T6 instate construction small	Aggregate	15	Diesel	1233.993323	0.000837242	0.193966566	7.450%	0.34%	230.2639593	0.284144188	0.284144188	1.92787E-07	4.46635E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	20	Diesel	1053.81081	0.000568711	0.165644384	0.276%	0.34%	8.528444271	0.008987367	0.008987367	4.85022E-09	1.41269E-06
El Dorado (LT)	2045	T6 instate construction small	Aggregate	25	Diesel	919.644429	0.00044661	0.144555297	9.798%	0.34%	302.8161659	0.2784832	0.2784832	1.35241E-07	4.37737E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	30	Diesel	807.9424276	0.000361215	0.126997298	3.091%	0.34%	95.53949364	0.07719041	0.07719041	3.45103E-08	1.21333E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	35	Diesel	722.1367956	0.000297479	0.113509848	29.832%	0.34%	922.0054347	0.66581405	0.66581405	2.74277E-07	0.000104657
El Dorado (LT)	2045	T6 instate construction small	Aggregate	40	Diesel	662.2274931	0.000255401	0.10409294	12.574%	0.34%	388.6217874	0.257356032	0.257356032	9.92546E-08	4.04528E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	45	Diesel	628.214498	0.000234981	0.098746571	18.067%	0.34%	558.3959367	0.350792423	0.350792423	1.31212E-07	5.51397E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	50	Diesel	620.0977945	0.000236217	0.097470738	10.102%	0.34%	312.2201561	0.19360703	0.19360703	7.37516E-08	3.04323E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	55	Diesel	637.8773737	0.000259108	0.10026544	8.803%	0.34%	272.0773527	0.173551987	0.173551987	7.04974E-08	2.728E-05
El Dorado (LT)	2045	T6 instate construction small	Aggregate	60	Diesel	681.553302	0.000303656	0.107130688	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	65	Diesel	751.1254985	0.000369859	0.118066468	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	70	Diesel	751.1254985	0.000457357	0.118066468	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	75	Diesel	751.1254985	0.000566419	0.118066468	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	80	Diesel	0	0	0	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	85	Diesel	0	0	0	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate construction small	Aggregate	90	Diesel	0	0	0	0.000%	0.34%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	5	Diesel	1736.593008	0.002449234	0.272968237	0.002%	0.62%	0.098304882	0.000170716	0.000170716	2.40772E-10	2.68341E-08
El Dorado (LT)	2045	T6 instate heavy	Aggregate	10	Diesel	1435.793152	0.001536917	0.225686689	0.004%	0.62%	0.237110778	0.000340442	0.000340442	3.6442E-10	5.35127E-08
El Dorado (LT)	2045	T6 instate heavy	Aggregate	15	Diesel	1129.849013	0.000854441	0.177596531	7.450%	0.62%	416.0544743	0.470078737	0.470078737	3.55494E-07	7.38898E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	20	Diesel	964.8398375	0.000580415	0.151659386	0.276%	0.62%	15.40969507	0.014867888	0.014867888	8.94401E-09	2.33702E-06
El Dorado (LT)	2045	T6 instate heavy	Aggregate	25	Diesel	841.9727516	0.000455808	0.132346391	9.798%	0.62%	547.1460714	0.460682083	0.460682083	2.49394E-07	7.24128E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	30	Diesel	739.6674108	0.000368658	0.116265417	3.091%	0.62%	172.6263802	0.127686108	0.127686108	6.36401E-08	2.00705E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	35	Diesel	661.066893	0.000303613	0.10391051	29.832%	0.62%	1665.933686	1.101293606	1.101293606	5.05799E-07	0.000173108
El Dorado (LT)	2045	T6 instate heavy	Aggregate	40	Diesel	606.1110775	0.000260673	0.095272221	12.574%	0.62%	702.1847185	0.425601936	0.425601936	1.8304E-07	6.68987E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	45	Diesel	574.9661607	0.000239838	0.090376674	18.067%	0.62%	1008.942644	0.580107878	0.580107878	2.41983E-07	9.11849E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	50	Diesel	567.454106	0.000241108	0.089195883	10.102%	0.62%	564.1377543	0.320122285	0.320122285	1.36018E-07	5.03188E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	55	Diesel	583.6202827	0.000264484	0.091736981	8.803%	0.62%	491.6053744	0.286910868	0.286910868	1.30022E-07	4.50984E-05
El Dorado (LT)	2045	T6 instate heavy	Aggregate	60	Diesel	623.4474759	0.000309964	0.097997261	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	65	Diesel	687.0893606	0.00037755	0.108000879	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	70	Diesel	687.0893606	0.000466731	0.108000879	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	75	Diesel	687.0893606	0.000577891	0.108000879	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.62%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	5	Diesel	1890.254665	0.002388665	0.29712171	0.002%	0.85%	0.135724969	0.000256555	0.000256555	3.24201E-10	4.03268E-08
El Dorado (LT)	2045	T6 instate small	Aggregate	10	Diesel	1562.838667	0.001498909	0.245656475	0.004%	0.85%	0.327367801	0.000511623	0.000511623	4.90695E-10	8.042E-08
El Dorado (LT)	2045	T6 instate small	Aggregate	15	Diesel	1229.823198	0.00083331	0.19331108	7.450%	0.85%	574.4270223	0.706443678	0.706443678	4.78676E-07	0.000111043
El Dorado (LT)	2045	T6 instate small	Aggregate	20	Diesel	1050.249681	0.000566061	0.165084624	0.276%	0.85%	21.2754478	0.022344532	0.022344532	1.20432E-08	3.51225E-06
El Dorado (LT)	2045	T6 instate small	Aggregate	25	Diesel	916.5361853	0.000444536	0.144066725	9.798%	0.85%	755.4190809	0.692368923	0.692368923	3.35811E-07	0.000108831
El Dorado (LT)	2045	T6 instate small	Aggregate	30	Diesel	805.2108887	0.000359541	0.126567938	3.091%	0.85%	238.3371979	0.191911707	0.191911707	8.5692E-08	3.01658E-05
El Dorado (LT)	2045	T6 instate small	Aggregate	35	Diesel	719.6946623	0.000296104	0.113125979	29.832%	0.85%	2300.076999	1.655353139	1.655353139	6.81063E-07	0.000260198
El Dorado (LT)	2045	T6 instate small	Aggregate	40	Diesel	659.9875059	0.000254226	0.103740845	12.574%	0.85%	969.4737153	0.639840539	0.639840539	2.46466E-07	0.000100574
El Dorado (LT)	2045	T6 instate small	Aggregate	45	Diesel	626.0894207	0.000233907	0.098412538	18.067%	0.85%	1393.000086	0.872142617	0.872142617	3.25832E-07	0.000137089
El Dorado (LT)	2045	T6 instate small	Aggregate	50	Diesel	618.0004055	0.000235146	0.097141058	10.102%	0.85%	778.8787056	0.481347356	0.481347356	1.8315E-07	7.56611E-05
El Dorado (LT)	2045	T6 instate small	Aggregate	55	Diesel	635.7204615	0.000257943	0.099926404	8.803%	0.85%	678.736629	0.431486763	0.431486763	1.75075E-07	6.78237E-05
El Dorado (LT)	2045	T6 instate small	Aggregate	60	Diesel	679.2495885	0.000302299	0.106768576	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	65	Diesel	748.5877856	0.000368213	0.117667575	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	70	Diesel	748.5877856	0.000455526	0.117667575	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	75	Diesel	748.5877856	0.000564357	0.117667575	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	80	Diesel	0	0	0	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	85	Diesel	0	0	0	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 instate small	Aggregate	90	Diesel	0	0	0	0.000%	0.85%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	5	Diesel	2423.92354	0.00319076	0.381007025	0.002%	0.00%	1.70332E-06	4.12872E-09	4.12872E-09	5.4349E-15	6.48978E-13
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	10	Diesel	2004.069348	0.002002231	0.315011793	0.004%	0.00%	4.1084E-06	8.23353E-09	8.23353E-09	8.22598E-15	1.2942E-12
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	15	Diesel	1577.034807	0.00111313	0.24788791	7.450%	0.00%	0.007208952	1.13688E-05	1.13688E-05	8.0245E-12	1.78701E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	20	Diesel	1345.316221	0.00075614	0.211464975	0.276%	0.00%	0.000267003	3.59203E-07	3.59203E-07	2.01892E-13	5.64618E-11
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	25	Diesel	1172.841779	0.000593808	0.184354395	9.798%	0.00%	0.009480369	1.1119E-05	1.1119E-05	5.62952E-12	1.74775E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	30	Diesel	1028.796	0.000480272	0.161712404	3.091%	0.00%	0.002991087	3.07722E-06	3.07722E-06	1.43654E-12	4.83696E-10
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	35	Diesel	917.5782888	0.000395534	0.144230529	29.832%	0.00%	0.028865538	2.64864E-05	2.64864E-05	1.14173E-11	4.16329E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	40	Diesel	836.5892748	0.000339594	0.131500184	12.574%	0.00%	0.012166714	1.01785E-05	1.01785E-05	4.13174E-12	1.59993E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	45	Diesel	793.0145844	0.000312451	0.124650849	18.067%	0.00%	0.017481891	1.38634E-05	1.38634E-05	5.46223E-12	2.17913E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	50	Diesel	779.1566664	0.000314106	0.122472578	10.102%	0.00%	0.009774783	7.61609E-06	7.61609E-06	3.07032E-12	1.19714E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	55	Diesel	796.9770686	0.000344558	0.125273697	8.803%	0.00%	0.008518018	6.78867E-06	6.78867E-06	2.93495E-12	1.06708E-09
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	60	Diesel	845.7314861	0.000403809	0.132937212	0.000%	0.00%	0	0	0	0	0

El Dorado (LT)	2045	T6 OOS heavy	Aggregate	65	Diesel	932.0642532	0.000491857	0.146507521	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	70	Diesel	932.0642532	0.000585928	0.146507521	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	75	Diesel	932.0642532	0.000703184	0.146507521	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	5	Diesel	2473.44239	0.003219671	0.388790699	0.002%	0.00%	1.3865E-06	3.42942E-09	3.42942E-09	4.46407E-15	5.39057E-13
El Dorado (LT)	2045	T6 OOS small	Aggregate	10	Diesel	2045.010907	0.002020373	0.321447236	0.004%	0.00%	3.34422E-06	6.83897E-09	6.83897E-09	6.75658E-15	1.07499E-12
El Dorado (LT)	2045	T6 OOS small	Aggregate	15	Diesel	1609.252387	0.001123215	0.252952065	7.450%	0.00%	0.005868056	9.44318E-06	9.44318E-06	6.59109E-12	1.48434E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	20	Diesel	1374.276244	0.000762991	0.216017088	0.276%	0.00%	0.000217339	2.98684E-07	2.98684E-07	1.65828E-13	4.6949E-11
El Dorado (LT)	2045	T6 OOS small	Aggregate	25	Diesel	1199.309011	0.000599188	0.188514675	9.798%	0.00%	0.00771698	9.25504E-06	9.25504E-06	4.62392E-12	1.45476E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	30	Diesel	1053.63726	0.000484624	0.165617104	3.091%	0.00%	0.002434732	2.56532E-06	2.56532E-06	1.17993E-12	4.03233E-10
El Dorado (LT)	2045	T6 OOS small	Aggregate	35	Diesel	941.7372795	0.000399118	0.148027986	29.832%	0.00%	0.023496425	2.21275E-05	2.21275E-05	9.37784E-12	3.47813E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	40	Diesel	863.6090705	0.000342671	0.135747319	12.574%	0.00%	0.009903654	8.55289E-06	8.55289E-06	3.39369E-12	1.34439E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	45	Diesel	819.252634	0.000315282	0.128775105	18.067%	0.00%	0.014230185	1.16581E-05	1.16581E-05	4.48652E-12	1.83249E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	50	Diesel	808.6679687	0.000316952	0.127111343	10.102%	0.00%	0.007956631	6.43427E-06	6.43427E-06	2.52187E-12	1.01138E-09
El Dorado (LT)	2045	T6 OOS small	Aggregate	55	Diesel	831.8550758	0.00034768	0.130756034	8.803%	0.00%	0.006933631	5.76778E-06	5.76778E-06	2.41069E-12	9.06614E-10
El Dorado (LT)	2045	T6 OOS small	Aggregate	60	Diesel	888.8139555	0.000407468	0.139709176	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	65	Diesel	979.5446064	0.000496313	0.153970771	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	70	Diesel	979.5446064	0.000586017	0.153970771	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	75	Diesel	979.5446064	0.000697828	0.153970771	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 OOS small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	5	Diesel	1920.774171	0.002259292	0.301918951	0.002%	0.32%	0.051276889	9.84913E-05	9.84913E-05	1.15849E-10	1.54815E-08
El Dorado (LT)	2045	T6 Public	Aggregate	10	Diesel	1589.190642	0.001456199	0.249798638	0.004%	0.32%	0.123679545	0.00019655	0.00019655	1.80102E-10	3.0895E-08
El Dorado (LT)	2045	T6 Public	Aggregate	15	Diesel	1251.225903	0.000821901	0.196675288	7.450%	0.32%	217.0185114	0.271539183	0.271539183	1.78368E-07	4.26822E-05
El Dorado (LT)	2045	T6 Public	Aggregate	20	Diesel	1068.518443	0.00055307	0.167956219	0.276%	0.32%	8.037863527	0.008588605	0.008588605	4.4455E-09	1.35001E-06
El Dorado (LT)	2045	T6 Public	Aggregate	25	Diesel	932.7817559	0.000431131	0.146620302	9.798%	0.32%	285.3973055	0.2662134	0.2662134	1.23044E-07	4.1845E-05
El Dorado (LT)	2045	T6 Public	Aggregate	30	Diesel	819.9662762	0.000346551	0.12888728	3.091%	0.32%	90.04378605	0.073832868	0.073832868	3.12047E-08	1.16055E-05
El Dorado (LT)	2045	T6 Public	Aggregate	35	Diesel	733.2871134	0.000283309	0.115262523	29.832%	0.32%	868.9690194	0.637203784	0.637203784	2.46186E-07	0.00010016
El Dorado (LT)	2045	T6 Public	Aggregate	40	Diesel	672.7179021	0.000240657	0.105741886	12.574%	0.32%	366.2671399	0.246394462	0.246394462	8.81446E-08	3.87298E-05
El Dorado (LT)	2045	T6 Public	Aggregate	45	Diesel	638.243187	0.000218044	0.100322941	18.067%	0.32%	526.2753898	0.335891682	0.335891682	1.14751E-07	5.27975E-05
El Dorado (LT)	2045	T6 Public	Aggregate	50	Diesel	629.8532041	0.000215065	0.099004152	10.102%	0.32%	294.260351	0.185340825	0.185340825	6.32851E-08	2.9133E-05
El Dorado (LT)	2045	T6 Public	Aggregate	55	Diesel	647.541432	0.00023142	0.101784496	8.803%	0.32%	256.4266776	0.166046898	0.166046898	5.93423E-08	2.61003E-05
El Dorado (LT)	2045	T6 Public	Aggregate	60	Diesel	691.3540668	0.00026774	0.108671232	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	65	Diesel	761.247098	0.000323292	0.119657443	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	70	Diesel	761.247098	0.000396881	0.119657443	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	75	Diesel	761.247098	0.000488607	0.119657443	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	5	Diesel	1876.622778	0.001930302	0.294978967	0.002%	0.01%	0.00094158	1.76699E-06	1.76699E-06	1.81753E-12	2.77746E-10
El Dorado (LT)	2045	T6 utility	Aggregate	10	Diesel	1551.567996	0.001211283	0.243884882	0.004%	0.01%	0.002271086	3.52374E-06	3.52374E-06	2.75093E-12	5.53884E-10
El Dorado (LT)	2045	T6 utility	Aggregate	15	Diesel	1220.954123	0.000673406	0.191916985	7.450%	0.01%	3.985038457	0.004865549	0.004865549	2.68355E-09	7.64797E-07
El Dorado (LT)	2045	T6 utility	Aggregate	20	Diesel	1042.67563	0.000457439	0.163894089	0.276%	0.01%	0.147596604	0.000153895	0.000153895	6.75165E-11	2.41902E-08
El Dorado (LT)	2045	T6 utility	Aggregate	25	Diesel	909.9264319	0.000359234	0.143027764	9.798%	0.01%	5.240655421	0.004768611	0.004768611	1.88262E-09	7.49559E-07
El Dorado (LT)	2045	T6 utility	Aggregate	30	Diesel	799.4039763	0.000290548	0.125655173	3.091%	0.01%	1.653443976	0.00132177	0.00132177	4.80406E-10	2.07764E-07
El Dorado (LT)	2045	T6 utility	Aggregate	35	Diesel	714.5044644	0.000239285	0.112310152	29.832%	0.01%	15.95658793	0.011401053	0.011401053	3.81817E-09	1.79209E-06
El Dorado (LT)	2045	T6 utility	Aggregate	40	Diesel	655.2278961	0.000205443	0.102992701	12.574%	0.01%	6.725641184	0.004406828	0.004406828	1.38173E-09	6.92692E-07
El Dorado (LT)	2045	T6 utility	Aggregate	45	Diesel	621.5742726	0.000189022	0.09770282	18.067%	0.01%	9.663819248	0.006006781	0.006006781	1.82668E-09	9.44182E-07
El Dorado (LT)	2045	T6 utility	Aggregate	50	Diesel	613.5435927	0.000190023	0.096440509	10.102%	0.01%	5.403404566	0.003315224	0.003315224	1.02677E-09	5.21107E-07
El Dorado (LT)	2045	T6 utility	Aggregate	55	Diesel	631.1358575	0.000208446	0.099205768	8.803%	0.01%	4.708677454	0.002971815	0.002971815	9.81506E-10	4.67128E-07
El Dorado (LT)	2045	T6 utility	Aggregate	60	Diesel	674.351067	0.000244291	0.105998597	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	65	Diesel	743.1892201	0.000297557	0.116818996	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	70	Diesel	743.1892201	0.000368244	0.116818996	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T6TS	Aggregate	5	Gasoline	3143.188837	0.015137139	0.015482618	0.002%	0.20%	0.031853374	0.000100121	0.000100121	4.82169E-10	4.93174E-10
El Dorado (LT)	2045	T6TS	Aggregate	10	Gasoline	2551.585734	0.009523189	0.013454983	0.004%	0.20%	0.076830146	0.000196039	0.000196039	7.31668E-10	1.03375E-09
El Dorado (LT)	2045	T6TS	Aggregate	15	Gasoline	2086.67245	0.006350596	0.011805572	7.450%	0.20%	134.812623	0.281309786	0.281309786	8.56141E-07	1.59154E-06
El Dorado (LT)	2045	T6TS	Aggregate	20	Gasoline	1734.508473	0.004445105	0.010598561	0.276%	0.20%	4.993147629	0.008660657	0.008660657	2.21951E-08	5.29202E-08
El Dorado (LT)	2045	T6TS	Aggregate	25	Gasoline	1482.561823	0.003281285	0.009669186	9.798%	0.20%	177.289758	0.262843027	0.262843027	5.81738E-07	1.71425E-06
El Dorado (LT)	2045	T6TS	Aggregate	30	Gasoline	1315.519071	0.002557845	0.008958236	3.091%	0.20%	55.93550019	0.073584217	0.073584217	1.43074E-07	5.01083E-07
El Dorado (LT)	2045	T6TS	Aggregate	35	Gasoline	1219.458641	0.002096111	0.00846859	29.832%	0.20%	539.8064528	0.658271644	0.658271644	1.13149E-06	4.5714E-06
El Dorado (LT)	2045	T6TS	Aggregate	40	Gasoline	1180.463047	0.001811585	0.008141959	12.574%	0.20%	227.5263688	0.268586471	0.268586471	4.12183E-07	1.85251E-06
El Dorado (LT)	2045	T6TS	Aggregate	45	Gasoline	1184.616066	0.001662099	0.00787798	18.067%	0.20%	326.9240273	0.387279455	0.387279455	5.4338E-07	2.5755E-06
El Dorado (LT)	2045	T6TS	Aggregate	50	Gasoline	1219.38779	0.001596532	0.007842431	10.102%	0.20%	182.7955114	0.222898615	0.222898615	2.91839E-07	1.43356E-06
El Dorado (LT)	2045	T6TS	Aggregate	55	Gasoline	1269.470642	0.001612045	0.007966637	8.803%	0.20%	159.2931073	0.202217923	0.202217923	2.56788E-07	1.26903E-06
El Dorado (LT)	2045	T6TS	Aggregate	60	Gasoline	1320.949792	0.001726633	0.008148699	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T6TS	Aggregate	65	Gasoline	1361.30206	0.001980405	0.008303803	0.000%	0.20%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	5	Diesel	2342.103807	0.005738828	0.368146103	0.002%	0.81%	0.128888297	0.00030187	0.00030187	7.39668E-10	4.74497E-08

El Dorado (LT)	2045	T7 CAIRP	Aggregate	10	Diesel	1936.421827	0.003601167	0.304378545	0.004%	0.81%	0.31087779	0.000601991	0.000601991	1.11952E-09	9.46245E-08
El Dorado (LT)	2045	T7 CAIRP	Aggregate	15	Diesel	1523.801871	0.002002049	0.239520434	7.450%	0.81%	545.4922644	0.831222133	0.831222133	1.0921E-06	0.000130657
El Dorado (LT)	2045	T7 CAIRP	Aggregate	20	Diesel	1301.287459	0.001359976	0.204544267	0.276%	0.81%	20.20377132	0.026290914	0.026290914	2.74766E-08	4.13257E-06
El Dorado (LT)	2045	T7 CAIRP	Aggregate	25	Diesel	1135.600158	0.001068009	0.178500531	9.798%	0.81%	717.3674792	0.814642623	0.814642623	7.66155E-07	0.00012805
El Dorado (LT)	2045	T7 CAIRP	Aggregate	30	Diesel	997.6497808	0.000863806	0.156816652	3.091%	0.81%	226.3317928	0.225799863	0.225799863	1.95507E-07	3.54926E-05
El Dorado (LT)	2045	T7 CAIRP	Aggregate	35	Diesel	891.6750644	0.000711398	0.140158903	29.832%	0.81%	2184.218641	1.947613298	1.947613298	1.55385E-06	0.000306138
El Dorado (LT)	2045	T7 CAIRP	Aggregate	40	Diesel	817.648362	0.000610785	0.128522936	12.574%	0.81%	920.6398579	0.752759672	0.752759672	5.62313E-07	0.000118323
El Dorado (LT)	2045	T7 CAIRP	Aggregate	45	Diesel	775.6461002	0.000561967	0.121920765	18.067%	0.81%	1322.832565	1.02604992	1.02604992	7.43388E-07	0.000161281
El Dorado (LT)	2045	T7 CAIRP	Aggregate	50	Diesel	765.5864078	0.000564943	0.120339522	10.102%	0.81%	739.6454072	0.56626247	0.56626247	4.17858E-07	8.90086E-05
El Dorado (LT)	2045	T7 CAIRP	Aggregate	55	Diesel	787.4901487	0.000619715	0.123782485	8.803%	0.81%	644.5476384	0.507574916	0.507574916	3.99436E-07	7.97837E-05
El Dorado (LT)	2045	T7 CAIRP	Aggregate	60	Diesel	841.3494066	0.000726281	0.13224841	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	65	Diesel	927.2348484	0.000884642	0.145748406	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	70	Diesel	927.2348484	0.001094456	0.145748406	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	75	Diesel	927.2348484	0.001355979	0.145748406	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	80	Diesel	0	0	0	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	85	Diesel	0	0	0	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP	Aggregate	90	Diesel	0	0	0	0.000%	0.81%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	5	Diesel	2596.100059	0.005779113	0.408070776	0.002%	0.14%	0.023036638	5.98054E-05	5.98054E-05	1.33131E-10	9.40058E-09
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	10	Diesel	2146.422718	0.003626446	0.337387761	0.004%	0.14%	0.055564231	0.000119264	0.000119264	2.01501E-10	1.87467E-08
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	15	Diesel	1689.054992	0.002016103	0.265495923	7.450%	0.14%	97.49766403	0.164678916	0.164678916	1.96565E-07	2.58852E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	20	Diesel	1442.426415	0.001369523	0.226729345	0.276%	0.14%	3.611087887	0.005208729	0.005208729	4.94547E-09	8.1874E-07
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	25	Diesel	1258.782581	0.001075506	0.197863092	9.798%	0.14%	128.2174983	0.161397953	0.161397953	1.37899E-07	2.53695E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	30	Diesel	1105.886987	0.00086987	0.173830034	3.091%	0.14%	40.45304128	0.044736492	0.044736492	3.51889E-08	7.03195E-06
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	35	Diesel	988.4379022	0.000716392	0.155368673	29.832%	0.14%	390.3927318	0.385878973	0.385878973	2.79674E-07	6.06548E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	40	Diesel	906.435326	0.000615073	0.14247901	12.574%	0.14%	164.5490531	0.149153075	0.149153075	1.0121E-07	2.34448E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	45	Diesel	859.8792599	0.000565912	0.135161045	18.067%	0.14%	236.4343061	0.203304956	0.203304956	1.33801E-07	3.19567E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	50	Diesel	848.7697025	0.000568909	0.133414777	10.102%	0.14%	132.1993071	0.112206767	0.112206767	7.52094E-08	1.76373E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	55	Diesel	873.1066551	0.000624065	0.137240207	8.803%	0.14%	115.2021636	0.100583776	0.100583776	7.18936E-08	1.58104E-05
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	60	Diesel	932.8901178	0.000731379	0.146637335	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	65	Diesel	1028.120089	0.000890852	0.161606161	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	70	Diesel	1028.120089	0.001102184	0.161606161	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	75	Diesel	1028.120089	0.0013656	0.161606161	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	80	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	85	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	90	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	5	Diesel	2342.841268	0.005390762	0.368262021	0.002%	0.99%	0.157931591	0.000370009	0.000370009	8.51372E-10	5.81602E-08
El Dorado (LT)	2045	T7 NNOOS	Aggregate	10	Diesel	1937.031551	0.003382752	0.304474385	0.004%	0.99%	0.380930038	0.000737874	0.000737874	1.28859E-09	1.15983E-07
El Dorado (LT)	2045	T7 NNOOS	Aggregate	15	Diesel	1524.281672	0.001880623	0.239595852	7.450%	0.99%	668.4118203	1.018847887	1.018847887	1.25703E-06	0.000160149
El Dorado (LT)	2045	T7 NNOOS	Aggregate	20	Diesel	1301.699942	0.001277492	0.204609104	0.276%	0.99%	24.75642726	0.03222544	0.03222544	3.16261E-08	5.06539E-06
El Dorado (LT)	2045	T7 NNOOS	Aggregate	25	Diesel	1135.962387	0.001003233	0.178557468	9.798%	0.99%	879.0168694	0.998530101	0.998530101	8.81859E-07	0.000156955
El Dorado (LT)	2045	T7 NNOOS	Aggregate	30	Diesel	997.9710216	0.000811415	0.156867147	3.091%	0.99%	277.3327056	0.276770004	0.276770004	2.25032E-07	4.35044E-05
El Dorado (LT)	2045	T7 NNOOS	Aggregate	35	Diesel	891.9658928	0.000668251	0.140204617	29.832%	0.99%	2676.403779	2.387260886	2.387260886	1.78851E-06	0.000375244
El Dorado (LT)	2045	T7 NNOOS	Aggregate	40	Diesel	817.9242769	0.00057374	0.128566306	12.574%	0.99%	1128.094023	0.922695488	0.922695488	6.47233E-07	0.000145035
El Dorado (LT)	2045	T7 NNOOS	Aggregate	45	Diesel	775.9089915	0.000527883	0.121962088	18.067%	0.99%	1620.915603	1.257682991	1.257682991	8.55654E-07	0.00019769
El Dorado (LT)	2045	T7 NNOOS	Aggregate	50	Diesel	765.8527439	0.000530679	0.120381386	10.102%	0.99%	906.3148375	0.694103705	0.694103705	4.80962E-07	0.000109103
El Dorado (LT)	2045	T7 NNOOS	Aggregate	55	Diesel	787.7726831	0.000582128	0.123826895	8.803%	0.99%	789.7880289	0.622173435	0.622173435	4.59758E-07	9.7797E-05
El Dorado (LT)	2045	T7 NNOOS	Aggregate	60	Diesel	841.6623024	0.000682231	0.132297593	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	65	Diesel	927.5796848	0.000830988	0.145802609	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	70	Diesel	927.5796848	0.001028129	0.145802609	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	75	Diesel	927.5796848	0.001273857	0.145802609	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NNOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.99%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	5	Diesel	2343.215289	0.005745821	0.368320812	0.002%	0.32%	0.050404075	0.000118108	0.000118108	2.89613E-10	1.85649E-08
El Dorado (LT)	2045	T7 NOOS	Aggregate	10	Diesel	1937.340787	0.003605555	0.304522993	0.004%	0.32%	0.121574323	0.000235531	0.000235531	4.38343E-10	3.70222E-08
El Dorado (LT)	2045	T7 NOOS	Aggregate	15	Diesel	1524.525015	0.002004489	0.239634102	7.450%	0.32%	213.3245128	0.325218556	0.325218556	4.27607E-07	5.11198E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	20	Diesel	1301.903528	0.001361633	0.204641105	0.276%	0.32%	7.901046367	0.0102864	0.0102864	1.07583E-08	1.61688E-06
El Dorado (LT)	2045	T7 NOOS	Aggregate	25	Diesel	1136.136565	0.001069311	0.178584846	9.798%	0.32%	280.5393916	0.318731061	0.318731061	2.99984E-07	5.01001E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	30	Diesel	998.1194038	0.000864859	0.156890471	3.091%	0.32%	88.51109828	0.088344645	0.088344645	7.65496E-08	1.38865E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	35	Diesel	892.092804	0.000712265	0.140224566	29.832%	0.32%	854.1777912	0.762005861	0.762005861	6.08401E-07	0.000119777
El Dorado (LT)	2045	T7 NOOS	Aggregate	40	Diesel	818.0264512	0.000611529	0.128582366	12.574%	0.32%	360.0326934	0.294516266	0.294516266	2.20171E-07	4.62939E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	45	Diesel	776.0041481	0.000562652	0.121977046	18.067%	0.32%	517.3173496	0.401440409	0.401440409	2.91069E-07	6.31008E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	50	Diesel	765.9361218	0.000565632	0.120394492	10.102%	0.32%	289.2515741	0.221548229	0.221548229	1.6361E-07	3.48243E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	55	Diesel	787.8452499	0.00062047	0.123838302	8.803%	0.32%	252.0618896	0.198585762	0.198585762	1.56397E-07	3.12149E-05
El Dorado (LT)	2045	T7 NOOS	Aggregate	60	Diesel	841.7228519	0.000727166	0.132307111	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	65	Diesel	927.6464152	0.00088572	0.145813098	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	70	Diesel	927.6464152	0.001095748	0.145813098	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	75	Diesel	927.6464152	0.001357538	0.145813098	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 NOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.32%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	5	Diesel	2753.21023	0.006747335	0.432766308	0.002%	0.14%	0.021789018	5.99897E-05	5.99897E-05	1.47018E-10	9.42955E-09
El Dorado (LT)	2045	T7 Public	Aggregate	10	Diesel	2287.457182	0.004636947	0.359556414	0.004%	0.14%	0.052554979	0.000120217	0.000120217	2.43695E-10	1.88965E-08
El Dorado (LT)	2045	T7 Public	Aggregate	15	Diesel	1806.022015	0.002661941	0.28388151	7.450%	0.14%	92.21737811	0.166546615	0.166546615	2.45477E-07	2.61788E-05

El Dorado (LT)	2045	T7 Public	Aggregate	20	Diesel	1541.324741	0.001708024	0.242274785	0.276%	0.14%	3.415518314	0.005264423	0.005264423	5.83379E-09	8.27494E-07
El Dorado (LT)	2045	T7 Public	Aggregate	25	Diesel	1347.837964	0.001301675	0.211861358	9.798%	0.14%	121.2734852	0.163457007	0.163457007	1.57859E-07	2.56932E-05
El Dorado (LT)	2045	T7 Public	Aggregate	30	Diesel	1188.856866	0.001029575	0.186871744	3.091%	0.14%	38.26218239	0.045488258	0.045488258	3.93938E-08	7.15012E-06
El Dorado (LT)	2045	T7 Public	Aggregate	35	Diesel	1066.523567	0.000825943	0.167642653	29.832%	0.14%	369.2498124	0.393813627	0.393813627	3.04979E-07	6.1902E-05
El Dorado (LT)	2045	T7 Public	Aggregate	40	Diesel	980.6468302	0.000684388	0.154144025	12.574%	0.14%	155.6373929	0.152625316	0.152625316	1.06516E-07	2.39906E-05
El Dorado (LT)	2045	T7 Public	Aggregate	45	Diesel	931.1145473	0.000600197	0.14635824	18.067%	0.14%	223.6294789	0.208224661	0.208224661	1.34222E-07	3.273E-05
El Dorado (LT)	2045	T7 Public	Aggregate	50	Diesel	917.8559029	0.0005699	0.144274166	10.102%	0.14%	125.039647	0.114768378	0.114768378	7.12601E-08	1.804E-05
El Dorado (LT)	2045	T7 Public	Aggregate	55	Diesel	940.8235905	0.000590939	0.147884367	8.803%	0.14%	108.9630361	0.102514995	0.102514995	6.43905E-08	1.61139E-05
El Dorado (LT)	2045	T7 Public	Aggregate	60	Diesel	1000.313044	0.000662443	0.15723528	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	65	Diesel	1095.845185	0.000774659	0.172251603	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	70	Diesel	1095.845185	0.000919909	0.172251603	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	75	Diesel	1095.845185	0.001100956	0.172251603	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	5	Diesel	2676.263004	0.004953308	0.420671275	0.002%	0.15%	0.024544047	6.56863E-05	6.56863E-05	1.21574E-10	1.0325E-08
El Dorado (LT)	2045	T7 Single	Aggregate	10	Diesel	2212.700428	0.003108246	0.347805694	0.004%	0.15%	0.059200091	0.000130992	0.000130992	1.84008E-10	2.05901E-08
El Dorado (LT)	2045	T7 Single	Aggregate	15	Diesel	1741.210001	0.001728013	0.273693964	7.450%	0.15%	103.8774497	0.180872454	0.180872454	1.79502E-07	2.84306E-05
El Dorado (LT)	2045	T7 Single	Aggregate	20	Diesel	1486.965973	0.001173825	0.233730344	0.276%	0.15%	3.847380387	0.005720924	0.005720924	4.51615E-09	8.9925E-07
El Dorado (LT)	2045	T7 Single	Aggregate	25	Diesel	1297.651544	0.000921822	0.203972752	9.798%	0.15%	136.6074445	0.177268861	0.177268861	1.25928E-07	2.78642E-05
El Dorado (LT)	2045	T7 Single	Aggregate	30	Diesel	1140.034807	0.00074557	0.179197596	3.091%	0.15%	43.10009685	0.049135611	0.049135611	3.21341E-08	7.72343E-06
El Dorado (LT)	2045	T7 Single	Aggregate	35	Diesel	1018.959104	0.000614023	0.160166181	29.832%	0.15%	415.9381845	0.423824	0.423824	2.55396E-07	6.66192E-05
El Dorado (LT)	2045	T7 Single	Aggregate	40	Diesel	934.4244343	0.000527182	0.146878508	12.574%	0.15%	175.3163643	0.163819895	0.163819895	9.24236E-08	2.57502E-05
El Dorado (LT)	2045	T7 Single	Aggregate	45	Diesel	886.4307998	0.000485046	0.139334577	18.067%	0.15%	251.905448	0.223296748	0.223296748	1.22186E-07	3.50991E-05
El Dorado (LT)	2045	T7 Single	Aggregate	50	Diesel	874.978199	0.000487615	0.137534388	10.102%	0.15%	140.8498041	0.123240508	0.123240508	6.86805E-08	1.93717E-05
El Dorado (LT)	2045	T7 Single	Aggregate	55	Diesel	900.0666334	0.000534889	0.141477941	8.803%	0.15%	122.740448	0.110474582	0.110474582	6.56526E-08	1.73651E-05
El Dorado (LT)	2045	T7 Single	Aggregate	60	Diesel	961.6961029	0.000626869	0.151165235	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	65	Diesel	1059.866606	0.000763554	0.166596271	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	70	Diesel	1059.866606	0.000943675	0.166596271	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	75	Diesel	1059.866606	0.001168189	0.166596271	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	80	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	85	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 Single	Aggregate	90	Diesel	0	0	0	0.000%	0.15%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	5	Diesel	2727.225301	0.005064463	0.428681839	0.002%	0.36%	0.057149662	0.00015586	0.00015586	2.89432E-10	2.4499E-08
El Dorado (LT)	2045	T7 single construction	Aggregate	10	Diesel	2254.948912	0.003182726	0.354446567	0.004%	0.36%	0.137844638	0.000310833	0.000310833	4.38722E-10	4.88586E-08
El Dorado (LT)	2045	T7 single construction	Aggregate	15	Diesel	1774.507156	0.00176908	0.278927813	7.450%	0.36%	241.8737717	0.429206739	0.429206739	4.27894E-07	6.74653E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	20	Diesel	1515.377341	0.001199511	0.238196215	0.276%	0.36%	8.958444859	0.013575424	0.013575424	1.07458E-08	2.13387E-06
El Dorado (LT)	2045	T7 single construction	Aggregate	25	Diesel	1322.469647	0.000941717	0.207873812	9.798%	0.36%	318.0840301	0.420656475	0.420656475	2.99545E-07	6.61213E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	30	Diesel	1161.885462	0.000761679	0.182632214	3.091%	0.36%	100.3565549	0.116602822	0.116602822	7.64395E-08	1.83283E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	35	Diesel	1038.527703	0.000627265	0.163242093	29.832%	0.36%	968.4925625	1.005806356	1.005806356	6.07502E-07	0.000158099
El Dorado (LT)	2045	T7 single construction	Aggregate	40	Diesel	952.3955114	0.000538442	0.149703311	12.574%	0.36%	408.2159351	0.388783024	0.388783024	2.19801E-07	6.11113E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	45	Diesel	903.4883843	0.000495186	0.142015792	18.067%	0.36%	586.5500259	0.529941135	0.529941135	2.90451E-07	8.32994E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	50	Diesel	891.8060022	0.000497478	0.140179484	10.102%	0.36%	327.9621656	0.292478628	0.292478628	1.63154E-07	4.59736E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	55	Diesel	917.3481539	0.000545307	0.144194355	8.803%	0.36%	285.7953788	0.262173863	0.262173863	1.55846E-07	4.12101E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	60	Diesel	980.1153352	0.000638663	0.154060482	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	65	Diesel	1080.102036	0.000777446	0.169776999	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	70	Diesel	1080.102036	0.000956397	0.169776999	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	75	Diesel	1080.102036	0.001179451	0.169776999	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	80	Diesel	0	0	0	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	85	Diesel	0	0	0	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 single construction	Aggregate	90	Diesel	0	0	0	0.000%	0.36%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	5	Diesel	2386.897175	0.005743211	0.375186996	0.002%	0.01%	0.000868165	2.07222E-06	2.07222E-06	4.98605E-12	3.25724E-10
El Dorado (LT)	2045	T7 tractor	Aggregate	10	Diesel	1973.456418	0.003603918	0.310199867	0.004%	0.01%	0.002094009	4.13243E-06	4.13243E-06	7.54663E-12	6.49561E-10
El Dorado (LT)	2045	T7 tractor	Aggregate	15	Diesel	1552.944993	0.002003578	0.244101327	7.450%	0.01%	3.674323092	0.005706022	0.005706022	7.36179E-09	8.96907E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	20	Diesel	1326.128423	0.001361015	0.208448921	0.276%	0.01%	0.136088426	0.000180471	0.000180471	1.85218E-10	2.83675E-08
El Dorado (LT)	2045	T7 tractor	Aggregate	25	Diesel	1157.239834	0.001068825	0.181901986	9.798%	0.01%	4.832038997	0.005591828	0.005591828	5.1646E-09	8.78957E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	30	Diesel	1016.609633	0.000864466	0.159796877	3.091%	0.01%	1.524524153	0.001549846	0.001549846	1.3179E-09	2.43614E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	35	Diesel	908.558033	0.000711942	0.14281267	29.832%	0.01%	14.7124451	0.01336711	0.01336711	1.04744E-08	2.10112E-06
El Dorado (LT)	2045	T7 tractor	Aggregate	40	Diesel	832.9732916	0.000611252	0.130931802	12.574%	0.01%	6.201239706	0.005165467	0.005165467	3.79052E-09	8.11939E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	45	Diesel	790.1643085	0.000562396	0.124202826	18.067%	0.01%	8.910326612	0.007040622	0.007040622	5.01113E-09	1.10669E-06
El Dorado (LT)	2045	T7 tractor	Aggregate	50	Diesel	779.8001768	0.000565375	0.122573728	10.102%	0.01%	4.982098513	0.003885041	0.003885041	2.81675E-09	6.10674E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	55	Diesel	801.9652216	0.000620188	0.126057765	8.803%	0.01%	4.341539608	0.003481764	0.003481764	2.69257E-09	5.47285E-07
El Dorado (LT)	2045	T7 tractor	Aggregate	60	Diesel	856.6274464	0.000726836	0.134649905	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	65	Diesel	944.0724795	0.000885318	0.148395047	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	70	Diesel	944.0724795	0.001093953	0.148395047	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	75	Diesel	944.0724795	0.001354007	0.148395047	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	5	Diesel	2674.686989	0.005965558	0.420423547	0.002%	0.30%	0.04714344	0.000126094	0.000126094	2.81237E-10	1.98202E-08
El Dorado (LT)	2045	T7 tractor construction	Aggregate	10	Diesel	2211.420711	0.003744663	0.34760454	0.004%	0.30%	0.11370969	0.00025146	0.00025146	4.25804E-10	3.9526E-08
El Dorado (LT)	2045	T7 tractor construction	Aggregate	15	Diesel	1740.215892	0.002082119	0.273537704	7.450%	0.30%	199.5245669	0.347215822	0.347215822	4.15434E-07	5.45775E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	20	Diesel	1486.115499	0.001414117	0.233596661	0.276%	0.30%	7.3899283	0.010982287	0.010982287	1.04502E-08	1.72626E-06
El Dorado (LT)	2045	T7 tractor construction	Aggregate	25	Diesel	1296.915264	0.001110429	0.203857019	9.798%	0.30%	262.3913205	0.340299309	0.340299309	2.91367E-07	5.34903E-05

El Dorado (LT)	2045	T7 tractor construction	Aggregate	30	Diesel	1139.397908	0.000898061	0.179097484	3.091%	0.30%	82.7853223	0.094325423	0.094325423	7.43462E-08	1.48266E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	35	Diesel	1018.398125	0.000739553	0.160078003	29.832%	0.30%	798.9210971	0.813619747	0.813619747	5.90845E-07	0.00012789
El Dorado (LT)	2045	T7 tractor construction	Aggregate	40	Diesel	933.9154699	0.000634886	0.146798506	12.574%	0.30%	336.7422068	0.314488756	0.314488756	2.13793E-07	4.94333E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	45	Diesel	885.9496845	0.000584045	0.139258953	18.067%	0.30%	483.852131	0.428668643	0.428668643	2.82591E-07	6.73807E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	50	Diesel	874.5006029	0.000587018	0.137459317	10.102%	0.30%	270.5399125	0.236587317	0.236587317	1.58812E-07	3.71882E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	55	Diesel	899.5681169	0.000643797	0.141399581	8.803%	0.30%	235.7560259	0.212078604	0.212078604	1.51779E-07	3.33358E-05
El Dorado (LT)	2045	T7 tractor construction	Aggregate	60	Diesel	961.1529453	0.000754396	0.151079858	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	65	Diesel	1059.254109	0.000918791	0.166499995	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	70	Diesel	1059.254109	0.001134129	0.166499995	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	75	Diesel	1059.254109	0.001402538	0.166499995	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	80	Diesel	0	0	0	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	85	Diesel	0	0	0	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 tractor construction	Aggregate	90	Diesel	0	0	0	0.000%	0.30%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	5	Diesel	2811.48608	0.004199406	0.44192646	0.002%	0.00%	0.000591751	1.6637E-06	1.6637E-06	2.485E-12	2.61511E-10
El Dorado (LT)	2045	T7 utility	Aggregate	10	Diesel	2324.501159	0.002635166	0.365379212	0.004%	0.00%	0.0014273	3.31776E-06	3.31776E-06	3.76117E-12	5.21506E-10
El Dorado (LT)	2045	T7 utility	Aggregate	15	Diesel	1829.187817	0.001465006	0.287522852	7.450%	0.00%	2.504460838	0.004581129	0.004581129	3.66905E-09	7.2009E-07
El Dorado (LT)	2045	T7 utility	Aggregate	20	Diesel	1562.097644	0.000995167	0.245539996	0.276%	0.00%	0.092759435	0.000144899	0.000144899	9.23111E-11	2.27762E-08
El Dorado (LT)	2045	T7 utility	Aggregate	25	Diesel	1363.217759	0.000781519	0.214278848	9.798%	0.00%	3.293573301	0.004489858	0.004489858	2.57399E-09	7.05743E-07
El Dorado (LT)	2045	T7 utility	Aggregate	30	Diesel	1197.637148	0.000632093	0.188251882	3.091%	0.00%	1.03913318	0.001244504	0.001244504	6.56829E-10	1.95619E-07
El Dorado (LT)	2045	T7 utility	Aggregate	35	Diesel	1070.443874	0.000520568	0.16825887	29.832%	0.00%	10.02817163	0.010734595	0.010734595	5.22035E-09	1.68733E-06
El Dorado (LT)	2045	T7 utility	Aggregate	40	Diesel	981.6379353	0.000446944	0.154299813	12.574%	0.00%	4.226836237	0.004149223	0.004149223	1.88916E-09	6.522E-07
El Dorado (LT)	2045	T7 utility	Aggregate	45	Diesel	931.2193348	0.000411221	0.146374711	18.067%	0.00%	6.073381001	0.00565565	0.00565565	2.4975E-09	8.88989E-07
El Dorado (LT)	2045	T7 utility	Aggregate	50	Diesel	919.1880704	0.000413399	0.144483564	10.102%	0.00%	3.395855592	0.00312143	0.00312143	1.40384E-09	4.90645E-07
El Dorado (LT)	2045	T7 utility	Aggregate	55	Diesel	945.5441438	0.000453478	0.148626372	8.803%	0.00%	2.959243282	0.002798095	0.002798095	1.34195E-09	4.39822E-07
El Dorado (LT)	2045	T7 utility	Aggregate	60	Diesel	1010.287555	0.000531459	0.158803135	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	65	Diesel	1113.418302	0.00064734	0.175013852	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	70	Diesel	1113.418302	0.000783435	0.175013852	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7IS	Aggregate	5	Gasoline	3645.683205	0.490829557	0.270438456	0.002%	0.00%	0.000289947	1.05705E-06	1.05705E-06	1.42315E-10	7.84128E-11
El Dorado (LT)	2045	T7IS	Aggregate	10	Gasoline	2967.195214	0.3111407	0.232593184	0.004%	0.00%	0.00069935	2.07511E-06	2.07511E-06	2.17596E-10	1.62664E-10
El Dorado (LT)	2045	T7IS	Aggregate	15	Gasoline	2433.436135	0.206668428	0.205245075	7.450%	0.00%	1.227138544	0.002986163	0.002986163	2.53611E-07	2.51864E-07
El Dorado (LT)	2045	T7IS	Aggregate	20	Gasoline	2028.180047	0.144061269	0.185393509	0.276%	0.00%	0.045450372	9.21815E-05	9.21815E-05	6.54764E-09	8.4262E-09
El Dorado (LT)	2045	T7IS	Aggregate	25	Gasoline	1737.635467	0.106588028	0.168532382	9.798%	0.00%	1.613788759	0.002804177	0.002804177	1.72011E-07	2.71976E-07
El Dorado (LT)	2045	T7IS	Aggregate	30	Gasoline	1543.827195	0.083250694	0.155646256	3.091%	0.00%	0.509155647	0.000786048	0.000786048	4.23876E-08	7.92482E-08
El Dorado (LT)	2045	T7IS	Aggregate	35	Gasoline	1430.759319	0.068508481	0.146336971	29.832%	0.00%	4.913614837	0.0070302	0.0070302	3.36624E-07	7.19044E-07
El Dorado (LT)	2045	T7IS	Aggregate	40	Gasoline	1382.621044	0.059402681	0.140055082	12.574%	0.00%	2.071069984	0.002863505	0.002863505	1.23027E-07	2.90064E-07
El Dorado (LT)	2045	T7IS	Aggregate	45	Gasoline	1383.456942	0.054065309	0.137195587	18.067%	0.00%	2.975842068	0.004116949	0.004116949	1.6089E-07	4.08272E-07
El Dorado (LT)	2045	T7IS	Aggregate	50	Gasoline	1419.530805	0.052175835	0.135522644	10.102%	0.00%	1.66390515	0.002361965	0.002361965	8.68156E-08	2.25497E-07
El Dorado (LT)	2045	T7IS	Aggregate	55	Gasoline	1473.446783	0.053364288	0.135149092	8.803%	0.00%	1.449973359	0.002136459	0.002136459	7.73768E-08	1.95963E-07
El Dorado (LT)	2045	T7IS	Aggregate	60	Gasoline	1528.747089	0.056779535	0.139601313	0.000%	0.00%	0	0	0	0	0
El Dorado (LT)	2045	T7IS	Aggregate	65	Gasoline	1572.235235	0.064454132	0.144394433	0.000%	0.00%	0	0	0	0	0

SCENARIO	El Dorado County (LT) 2045 - STREX and IDLEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	El Dorado (LT)
Calendar Year	2045
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Daily Trips	150,866
Daily Vehicles	31,908

SAFE Rule Adjustment Factors	
CO_2	1.1243

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 IDLEX	CO_2 STREX	CH_4 IDLEX	CH_4 STREX	N_2O IDLEX	N_2O STREX	Fleet Mix	Vehicle Trips per Day	Vehicles per Day	CO_2 STREX Emissions (tons/day)	CO_2 STREX Emissions Adjusted for SAFE Rule (tons/day)	CO_2 IDLEX Emissions (tons/day)	CO_2 IDLEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 STREX Emissions (tons/day)	CH_4 IDLEX Emissions (tons/day)	N_2O STREX Emissions (tons/day)	N_2O IDLEX Emissions (tons/day)
El Dorado (LT)	2045	All Other Buses	Aggregate	Aggregate	Diesel	646.4042996	0	0.002291342	0	0.101605754	0	0.00%	4.77346837	1.009591013	0	0	0.000652604	0.000652604	0	2.31332E-09	0	1.0258E-07
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Gasoline	0	40.01561095	0	0.0249335	0	0.022963179	53.79%	81146.23195	17162.46975	3.247116047	3.650732572	0	0	0.00202326	0	0.001863375	0
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.67%	1010.42028	213.7044083	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	3.71%	5602.814624	1184.998172	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Gasoline	0	47.60671898	0	0.027819085	0	0.023944407	4.63%	6984.480888	1477.221296	0.332508219	0.37383899	0	0	0.000194302	0	0.000167239	0
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.00%	1.019272076	0.215576568	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.18%	277.9753756	58.79193475	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Gasoline	0	50.96253044	0	0.038689277	0	0.024523673	16.72%	25228.4277	5335.825421	1.285704515	1.445517586	0	0	0.00097607	0	0.000618694	0
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.17%	256.0148133	54.14726456	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.52%	791.0684438	167.3113823	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	LHD1	Aggregate	Aggregate	Gasoline	104.3249346	16.71437687	0.092966759	0.015692275	0.002431062	0.035402222	1.23%	1855.124045	392.3596886	0.031007242	0.031007242	0.040932899	0.040932899	2.91111E-05	3.64764E-05	6.56755E-05	9.53851E-07
El Dorado (LT)	2045	LHD1	Aggregate	Aggregate	Diesel	110.9871353	0	0.005098128	0	0.017445632	0	0.77%	1167.560062	246.939553	0	0	0.027407114	0.027407114	0	1.25893E-06	0	4.30802E-06
El Dorado (LT)	2045	LHD2	Aggregate	Aggregate	Gasoline	115.1736584	18.37180915	0.088546323	0.010833032	0.002384276	0.031874501	0.11%	167.8660789	35.50376193	0.003084004	0.003084004	0.004089098	0.004089098	1.8185E-06	3.14373E-06	5.35065E-06	8.46508E-08
El Dorado (LT)	2045	LHD2	Aggregate	Aggregate	Diesel	181.9481533	0	0.005098128	0	0.028599716	0	0.31%	467.8609208	98.95282514	0	0	0.018004284	0.018004284	0	5.04474E-07	0	2.83002E-06
El Dorado (LT)	2045	MCY	Aggregate	Aggregate	Gasoline	0	69.03084783	0	0.330983172	0	0.016571033	0.37%	562.0783111	118.8798516	0.038800742	0.038800742	0	0	0.000186038	0	9.31422E-06	0
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Gasoline	0	62.26085721	0	0.045646634	0	0.026516112	9.99%	15069.41741	3187.189524	0.938234846	1.054857437	0	0	0.000687868	0	0.000399582	0
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.36%	540.2189652	114.2565887	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.37%	558.7697372	118.1800865	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	MH	Aggregate	Aggregate	Gasoline	0	21.34546837	0	0.031256712	0	0.040481167	0.04%	53.08982307	11.22852486	0.001133227	0.001133227	0	0	1.65941E-06	0	2.14914E-06	0
El Dorado (LT)	2045	MH	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.02%	27.6115932	5.839866149	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	Motor Coach	Aggregate	Aggregate	Diesel	8370.687748	0	0.18555332	0	1.315755545	0	0.09%	131.4089342	27.79305711	0	0	0.232647003	0.232647003	0	5.15709E-06	0	3.65689E-05
El Dorado (LT)	2045	OBUS	Aggregate	Aggregate	Gasoline	315.9049062	22.81162973	0.199945516	0.029738172	0.005213507	0.03274012	0.03%	38.03383743	8.044176158	0.000867614	0.000867614	0.002541195	0.002541195	1.13106E-06	1.6084E-06	1.24523E-06	4.19384E-08
El Dorado (LT)	2045	PTO	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.03%	46.18184853	9.767484692	0	0	0	0	0	0	0	0
El Dorado (LT)	2045	SBUS	Aggregate	Aggregate	Gasoline	2124.820235	48.90304581	2.469580574	0.074272653	0.097587935	0.052344848	0.02%	27.61576931	5.840749398	0.001350495	0.001350495	0.012410543	0.012410543	2.0511E-06	1.44242E-05	1.44554E-06	5.69987E-07
El Dorado (LT)	2045	SBUS	Aggregate	Aggregate	Diesel	2722.432691	0	0.012432613	0	0.427928507	0	0.10%	157.906602	33.39732745	0	0	0.090921976	0.090921976	0	4.15216E-07	0	1.42917E-05
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	619.3307584	0	0.002291342	0	0.097350171	0	0.00%	0.029972961	0.006339297	0	0	3.92612E-06	3.92612E-06	0	1.45255E-11	0	6.17132E-10
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	619.9093767	0	0.002291342	0	0.097441121	0	0.00%	0.004327178	0.0009152	0	0	5.67341E-07	5.67341E-07	0	2.09704E-12	0	8.91782E-11
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	515.4340147	0	0.002291082	0	0.081019049	0	0.20%	303.9037676	64.275803	0	0	0.033129935	0.033129935	0	1.47261E-07	0	5.20756E-06
El Dorado (LT)	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	489.0227659	0	0.002291344	0	0.076867569	0	0.34%	515.5596976	109.0411409	0	0	0.0533236	0.0533236	0	2.49851E-07	0	8.38173E-06
El Dorado (LT)	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	494.8433023	0	0.002291342	0	0.077782476	0	0.62%	931.5436059	197.0219513	0	0	0.097494993	0.097494993	0	4.51445E-07	0	1.53249E-05
El Dorado (LT)	2045	T6 instate small	Aggregate	Aggregate	Diesel	486.4627807	0	0.002291342	0	0.076465175	0	0.85%	1286.138842	272.0190258	0	0	0.132327132	0.132327132	0	6.23289E-07	0	2.08E-05
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	618.5539795	0	0.002291342	0	0.097228072	0	0.00%	0.016140803	0.003413788	0	0	2.11161E-06	2.11161E-06	0	7.82215E-12	0	3.31916E-10
El Dorado (LT)	2045	T6 OOS small	Aggregate	Aggregate	Diesel	622.6181455	0	0.002291342	0	0.097866902	0	0.00%	0.013138545	0.002778809	0	0	1.73014E-06	1.73014E-06	0	6.3672E-12	0	2.71953E-10
El Dorado (LT)	2045	T6 Public	Aggregate	Aggregate	Diesel	2581.506814	0	0.011982563	0	0.405776922	0	0.32%	485.9032149	102.7687796	0	0	0.265298305	0.265298305	0	1.23143E-06	0	4.17012E-05
El Dorado (LT)	2045	T6 utility	Aggregate	Aggregate	Diesel	1320.495094	0	0.006297357	0	0.20756344	0	0.01%	8.922478481	1.887108783	0	0	0.002491918	0.002491918	0	1.18838E-08	0	3.91695E-07
El Dorado (LT)	2045	T6TS	Aggregate	Aggregate	Gasoline	441.0370643	30.95474105	0.270492228	0.034785132	0.007901999	0.036467213	0.20%	301.8446976	63.84030862	0.009343524	0.009343524	0.028155942	0.028155942	1.04997E-05	1.72683E-05	1.10074E-05	5.04466E-07
El Dorado (LT)	2045	T7 CAIRP	Aggregate	Aggregate	Diesel	19441.28798	0	0.484642799	0	3.055899734	0	0.81%	1221.354083	258.3170161	0	0	5.022015499	5.022015499	0	0.000125191	0	0.000789391
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	2964.820719	0	0.074055979	0	0.466028529	0	0.14%	218.2967162	46.16986764	0	0	0.13688538	0.13688538	0	3.41915E-06	0	2.15165E-05
El Dorado (LT)	2045	T7 NNOOS	Aggregate	Aggregate	Diesel	24162.71407	0	0.60150702	0	3.798042166	0	0.99%	1496.570271	316.5253812	0	0	7.64811228	7.64811228	0	0.000190392	0	0.001202177
El Dorado (LT)	2045	T7 NOOS	Aggregate	Aggregate	Diesel	24145.22497	0	0.60150702	0	3.795293124	0	0.32%	477.6323731	101.0194923	0	0	2.439138368	2.439138368	0	6.07639E-05	0	0.000383399
El Dorado (LT)	2045	T7 Public	Aggregate	Aggregate	Diesel	2396.454876	0	0.055451798	0	0.376689334	0	0.14%	206.474186	43.66939643	0	0	0.104651738	0.104651738	0	2.42155E-06	0	1.64498E-05
El Dorado (LT)	2045	T7 Single	Aggregate	Aggregate	Diesel	4160.932178	0	0.101538865	0	0.654040594	0	0.15%	232.5810202	49.19100527	0	0	0.204680437	0.204680437	0	4.9948E-06	0	3.21729E-05
El Dorado (LT)	2045	T7 single construction	Aggregate	Aggregate	Diesel	3088.966624	0	0.074041099	0	0.485542537	0	0.36%	541.5540016	114.5389496	0	0	0.353806992	0.353806992	0	8.48059E-06	0	5.56135E-05
El Dorado (LT)	2045	T7 tractor	Aggregate	Aggregate	Diesel	3567.017222	0	0.087304447	0	0.560685434	0	0.01%	8.226788542	1.739970003	0	0	0.006206503	0.006206503	0	1.51907E-07	0	9.75576E-07
El Dorado (LT)	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	3026.941921	0	0.074053764	0	0.475793117	0	0.30%	446.7343725	94.4845493	0	0	0.285999243	0.285999243	0	6.99694E-06	0	4.49551E-05
El Dorado (LT)	2045	T7 utility	Aggregate	Aggregate	Diesel	1263.218027	0	0.029513944	0	0.198560283	0	0.00%	5.607473598	1.185983547	0	0	0.001498156	0.001498156	0	3.50031E-08	0	2.35489E-07
El Dorado (LT)	2045	T7IS	Aggregate	Aggregate	Gasoline	0	35.24672995	0	0.00012286	0	0.035596298	0.00%	2.747556234	0.581109555	9.68424E-05	9.68424E-05	0	0	3.37565E-10	0	9.78028E-08	0

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: El Dorado (LT)
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Fleet Mix (Population)	VMT	Fleet Mix (VMT)	Trips	Fleet Mix (Trips)
El Dorado (LT)	2045	All Other Buses	Aggregate	Aggregate	Diesel	1.838747318	0.01%	7474.714014	0.00%	4510.079421	0.01%
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Gasoline	10108.35328	51.91%	127065862.8	53.79%	16083568.37	49.84%
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Diesel	125.4269703	0.64%	1582204.393	0.67%	200016.5538	0.62%
El Dorado (LT)	2045	LDA	Aggregate	Aggregate	Electricity	651.2032654	3.34%	8773376.87	3.71%	1047240.34	3.25%
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Gasoline	909.8874308	4.67%	10936910.67	4.63%	1406644.495	4.36%
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Diesel	0.162207141	0.00%	1596.065309	0.00%	228.5311097	0.00%
El Dorado (LT)	2045	LDT1	Aggregate	Aggregate	Electricity	32.07040057	0.16%	435278.1403	0.18%	51651.90574	0.16%
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Gasoline	3451.162527	17.72%	39504877.26	16.72%	5222478.385	16.18%
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Diesel	32.39475439	0.17%	400890.3725	0.17%	50714.12652	0.16%
El Dorado (LT)	2045	LDT2	Aggregate	Aggregate	Electricity	132.8074918	0.68%	1238724.115	0.52%	213356.3615	0.66%
El Dorado (LT)	2045	LHD1	Aggregate	Aggregate	Gasoline	268.661339	1.38%	2904915.382	1.23%	1308867.742	4.06%
El Dorado (LT)	2045	LHD1	Aggregate	Aggregate	Diesel	154.597741	0.79%	1828267.599	0.77%	635898.9469	1.97%
El Dorado (LT)	2045	LHD2	Aggregate	Aggregate	Gasoline	21.28431875	0.11%	262859.3792	0.11%	103693.2159	0.32%
El Dorado (LT)	2045	LHD2	Aggregate	Aggregate	Diesel	64.98951274	0.33%	732617.5247	0.31%	267318.0245	0.83%
El Dorado (LT)	2045	MCY	Aggregate	Aggregate	Gasoline	484.5870819	2.49%	880151.3498	0.37%	336303.4349	1.04%
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Gasoline	2113.298442	10.85%	23597010.97	9.99%	3168789.017	9.82%
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Diesel	69.90877551	0.36%	845922.0753	0.36%	108795.4302	0.34%
El Dorado (LT)	2045	MDV	Aggregate	Aggregate	Electricity	93.05206815	0.48%	874970.4955	0.37%	149955.7237	0.46%
El Dorado (LT)	2045	MH	Aggregate	Aggregate	Gasoline	23.30938604	0.12%	83132.68544	0.04%	762.5218104	0.00%
El Dorado (LT)	2045	MH	Aggregate	Aggregate	Diesel	15.40394643	0.08%	43236.64612	0.02%	503.7090482	0.00%
El Dorado (LT)	2045	Motor Coach	Aggregate	Aggregate	Diesel	5.639351708	0.03%	205771.5954	0.09%	24041.6842	0.07%
El Dorado (LT)	2045	OBUS	Aggregate	Aggregate	Gasoline	4.131938931	0.02%	59556.70712	0.03%	27033.68976	0.08%
El Dorado (LT)	2045	PTO	Aggregate	Aggregate	Diesel	0	0.00%	72315.57509	0.03%	0	0.00%
El Dorado (LT)	2045	SBUS	Aggregate	Aggregate	Gasoline	2.850986803	0.01%	43243.18543	0.02%	3729.090738	0.01%
El Dorado (LT)	2045	SBUS	Aggregate	Aggregate	Diesel	23.80157652	0.12%	247263.9597	0.10%	89816.07403	0.28%
El Dorado (LT)	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.002405125	0.00%	46.93428218	0.00%	10.95582731	0.00%
El Dorado (LT)	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.001097711	0.00%	6.775874118	0.00%	5.000293328	0.00%
El Dorado (LT)	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	22.78046253	0.12%	475879.083	0.20%	32132.75064	0.10%
El Dorado (LT)	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	52.32464401	0.27%	807308.4386	0.34%	73805.99654	0.23%
El Dorado (LT)	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	44.52735838	0.23%	1458692.402	0.62%	160317.9372	0.50%
El Dorado (LT)	2045	T6 instate small	Aggregate	Aggregate	Diesel	143.173378	0.74%	2013948.617	0.85%	515486.6909	1.60%
El Dorado (LT)	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.001306573	0.00%	25.27467967	0.00%	5.951699863	0.00%
El Dorado (LT)	2045	T6 OOS small	Aggregate	Aggregate	Diesel	0.002890861	0.00%	20.57348188	0.00%	13.16844804	0.00%
El Dorado (LT)	2045	T6 Public	Aggregate	Aggregate	Diesel	156.7299838	0.80%	760869.7257	0.32%	148329.2565	0.46%
El Dorado (LT)	2045	T6 utility	Aggregate	Aggregate	Diesel	2.687616775	0.01%	13971.5967	0.01%	9643.168987	0.03%
El Dorado (LT)	2045	T6TS	Aggregate	Aggregate	Gasoline	33.71688775	0.17%	472654.8111	0.20%	220596.6493	0.68%
El Dorado (LT)	2045	T7 CAIRP	Aggregate	Aggregate	Diesel	29.46272221	0.15%	1912502.979	0.81%	134208.5922	0.42%
El Dorado (LT)	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	6.273798856	0.03%	341828.0792	0.14%	8849.443419	0.03%
El Dorado (LT)	2045	T7 NNOOS	Aggregate	Aggregate	Diesel	46.10453913	0.24%	2343460.542	0.99%	210015.3966	0.65%
El Dorado (LT)	2045	T7 NOOS	Aggregate	Aggregate	Diesel	11.65306361	0.06%	747918.5187	0.32%	53082.03537	0.16%
El Dorado (LT)	2045	T7 Public	Aggregate	Aggregate	Diesel	51.15112403	0.26%	323315.328	0.14%	48409.42373	0.15%
El Dorado (LT)	2045	T7 Single	Aggregate	Aggregate	Diesel	14.3203833	0.07%	364195.6909	0.15%	51559.6342	0.16%
El Dorado (LT)	2045	T7 single construction	Aggregate	Aggregate	Diesel	35.6327896	0.18%	848012.5919	0.36%	50261.47039	0.16%
El Dorado (LT)	2045	T7 tractor	Aggregate	Aggregate	Diesel	0.329939863	0.00%	12882.22459	0.01%	1307.353712	0.00%
El Dorado (LT)	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	30.2048367	0.16%	699535.7286	0.30%	42605.12642	0.13%
El Dorado (LT)	2045	T7 utility	Aggregate	Aggregate	Diesel	1.38897801	0.01%	8780.672298	0.00%	4983.653099	0.02%
El Dorado (LT)	2045	T7IS	Aggregate	Aggregate	Gasoline	0.133176267	0.00%	4302.36371	0.00%	871.3211736	0.00%

SCENARIO	Placer County (LT) 2018 - RUNEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	Placer (LT)
Calendar Year	2018
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

SAFE Rule Adjustment Factors	
CO_2	1

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Daily VMT	458,112

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 RUNEX	CH_4 RUNEX	N_2O RUNEX	Percent Speed	Fleet Mix	Vehicle Activity per Day	CO_2 RUNEX Emissions (tons/day)	CO_2 RUNEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 RUNEX Emissions (tons/day)	N_2O RUNEX Emissions (tons/day)
Placer (LT)	2020	All Other Buses	Aggregate	5	Diesel	2482.032097	0.308184673	0.390140881	0.002%	0.09%	0.007567321	1.87823E-05	1.87823E-05	2.33213E-09	2.95232E-09
Placer (LT)	2020	All Other Buses	Aggregate	10	Diesel	2195.473987	0.232224696	0.345097937	0.011%	0.09%	0.048327724	0.000106102	0.000106102	1.12229E-08	1.66778E-08
Placer (LT)	2020	All Other Buses	Aggregate	15	Diesel	1782.302045	0.117874253	0.280153061	7.441%	0.09%	31.62011127	0.056356589	0.056356589	3.7272E-06	8.85847E-06
Placer (LT)	2020	All Other Buses	Aggregate	20	Diesel	1477.89243	0.053481488	0.232304109	0.207%	0.09%	0.878818176	0.001298799	0.001298799	4.70005E-08	2.04153E-07
Placer (LT)	2020	All Other Buses	Aggregate	25	Diesel	1315.910985	0.038641218	0.206842882	9.881%	0.09%	41.98921758	0.055254073	0.055254073	1.62251E-06	8.68517E-06
Placer (LT)	2020	All Other Buses	Aggregate	30	Diesel	1214.380834	0.031309539	0.190883756	3.122%	0.09%	13.26820691	0.016112656	0.016112656	4.15421E-07	2.53269E-06
Placer (LT)	2020	All Other Buses	Aggregate	35	Diesel	1132.750172	0.025608318	0.178052553	29.790%	0.09%	126.5912157	0.143396221	0.143396221	3.24179E-06	2.25399E-05
Placer (LT)	2020	All Other Buses	Aggregate	40	Diesel	1071.011859	0.02153736	0.168348149	12.632%	0.09%	53.67799125	0.057489765	0.057489765	1.15608E-06	9.03659E-06
Placer (LT)	2020	All Other Buses	Aggregate	45	Diesel	1029.161668	0.019094561	0.161769882	18.146%	0.09%	77.1127093	0.079361445	0.079361445	1.47243E-06	1.24745E-05
Placer (LT)	2020	All Other Buses	Aggregate	50	Diesel	1007.198306	0.018275898	0.158317548	10.003%	0.09%	42.50996202	0.042815962	0.042815962	7.76908E-07	6.73007E-06
Placer (LT)	2020	All Other Buses	Aggregate	55	Diesel	1005.123391	0.01907544	0.1579914	8.765%	0.09%	37.24742591	0.037438259	0.037438259	7.10511E-07	5.88477E-06
Placer (LT)	2020	All Other Buses	Aggregate	60	Diesel	1020.872893	0.020099081	0.160467002	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	65	Diesel	1046.994243	0.020118777	0.164572915	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	70	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	75	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	80	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	85	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	All Other Buses	Aggregate	90	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	LDA	Aggregate	10	Gasoline	575.396495	0.034740486	0.017250763	0.011%	33.60%	17.50491572	0.010072267	0.010072267	6.08129E-07	3.01973E-07
Placer (LT)	2020	LDA	Aggregate	10	Diesel	509.9896397	0.009598473	0.080163269	0.011%	0.52%	0.269691703	0.00013754	0.00013754	2.58863E-09	2.16194E-08
Placer (LT)	2020	LDA	Aggregate	15	Gasoline	470.734855	0.023586318	0.015180974	7.441%	33.60%	11453.20612	5.391423324	5.391423324	0.000270139	0.000173871
Placer (LT)	2020	LDA	Aggregate	15	Diesel	419.4650274	0.005757812	0.065934061	7.441%	0.52%	176.4552722	0.074016816	0.074016816	1.016E-06	1.16344E-05
Placer (LT)	2020	LDA	Aggregate	20	Gasoline	391.4817215	0.016869349	0.013604047	0.207%	33.60%	318.3191112	0.124616114	0.124616114	5.36984E-06	4.33043E-06
Placer (LT)	2020	LDA	Aggregate	20	Diesel	344.0975213	0.003451873	0.054087339	0.207%	0.52%	4.904223743	0.001687531	0.001687531	1.69288E-08	2.65256E-07
Placer (LT)	2020	LDA	Aggregate	25	Gasoline	334.7587439	0.012703045	0.012409782	9.881%	33.60%	15209.0282	5.091355175	5.091355175	0.000193201	0.000188741
Placer (LT)	2020	LDA	Aggregate	25	Diesel	288.436876	0.00256097	0.04533826	9.881%	0.52%	234.3198212	0.067586477	0.067586477	6.00086E-07	1.06237E-05
Placer (LT)	2020	LDA	Aggregate	30	Gasoline	297.1002858	0.010066481	0.011519829	3.122%	33.60%	4805.913153	1.427838171	1.427838171	4.83786E-05	5.53633E-05
Placer (LT)	2020	LDA	Aggregate	30	Diesel	249.8392611	0.002091314	0.039271253	3.122%	0.52%	74.04291029	0.018498826	0.018498826	1.54847E-07	2.90776E-06
Placer (LT)	2020	LDA	Aggregate	35	Gasoline	275.3706007	0.008391494	0.010879572	29.790%	33.60%	45852.94701	12.62655356	12.62655356	0.000384775	0.00049886
Placer (LT)	2020	LDA	Aggregate	35	Diesel	225.8496595	0.001792161	0.035500421	29.790%	0.52%	706.4392415	0.159549062	0.159549062	1.26605E-06	2.50789E-05
Placer (LT)	2020	LDA	Aggregate	40	Gasoline	266.4452623	0.007356486	0.010451493	12.632%	33.60%	19442.85056	5.180455417	5.180455417	0.000143031	0.000203207
Placer (LT)	2020	LDA	Aggregate	40	Diesel	211.3447433	0.001606653	0.03322045	12.632%	0.52%	299.5487421	0.063308052	0.063308052	4.81271E-07	9.95114E-06
Placer (LT)	2020	LDA	Aggregate	45	Gasoline	267.2072482	0.006781101	0.010211618	18.146%	33.60%	27931.20324	7.463419957	7.463419957	0.000189404	0.000285223
Placer (LT)	2020	LDA	Aggregate	45	Diesel	204.1427863	0.001504984	0.032088403	18.146%	0.52%	430.3256239	0.087847872	0.087847872	6.47633E-07	1.38085E-05
Placer (LT)	2020	LDT1	Aggregate	10	Gasoline	673.4041588	0.059296419	0.03092819	0.011%	6.15%	3.206225365	0.002159085	0.002159085	1.90118E-07	9.91627E-08
Placer (LT)	2020	LDT1	Aggregate	10	Diesel	794.250992	0.008190286	0.124845195	0.011%	0.00%	5.22553E-05	4.15038E-08	4.15038E-08	4.27986E-13	6.52382E-12
Placer (LT)	2020	LDT1	Aggregate	15	Gasoline	550.9173089	0.040989067	0.026701726	7.441%	6.15%	2097.785592	1.155706393	1.155706393	8.59863E-05	5.60145E-05
Placer (LT)	2020	LDT1	Aggregate	15	Diesel	658.5649719	0.003999143	0.103517243	7.441%	0.00%	0.034189846	2.25162E-05	2.25162E-05	1.3673E-10	3.53924E-09
Placer (LT)	2020	LDT1	Aggregate	20	Gasoline	458.2055246	0.029768535	0.023589394	0.207%	6.15%	58.30378304	0.026715115	0.026715115	1.73562E-06	1.37535E-06
Placer (LT)	2020	LDT1	Aggregate	20	Diesel	541.0614027	0.001554763	0.085047318	0.207%	0.00%	0.000950239	5.14138E-07	5.14138E-07	1.4774E-12	8.08153E-11
Placer (LT)	2020	LDT1	Aggregate	25	Gasoline	391.8477802	0.02269158	0.021308547	9.881%	6.15%	2785.707327	1.091573232	1.091573232	6.32121E-05	5.93594E-05
Placer (LT)	2020	LDT1	Aggregate	25	Diesel	453.6604819	0.000933249	0.07130911	9.881%	0.00%	0.045401639	2.05969E-05	2.05969E-05	4.2371E-11	3.23755E-09
Placer (LT)	2020	LDT1	Aggregate	30	Gasoline	347.7689527	0.018140417	0.019668933	3.122%	6.15%	880.2579171	0.306126374	0.306126374	1.59682E-05	1.73137E-05
Placer (LT)	2020	LDT1	Aggregate	30	Diesel	392.2879314	0.000704939	0.0616622	3.122%	0.00%	0.014346501	5.62796E-06	5.62796E-06	1.01134E-11	8.84637E-10
Placer (LT)	2020	LDT1	Aggregate	35	Gasoline	322.2946736	0.015200461	0.018544478	29.790%	6.15%	8398.491265	2.706789001	2.706789001	0.000127661	0.000155746
Placer (LT)	2020	LDT1	Aggregate	35	Diesel	354.0549348	0.000560519	0.055652505	29.790%	0.00%	0.136879156	4.84627E-05	4.84627E-05	7.67233E-11	7.61767E-09
Placer (LT)	2020	LDT1	Aggregate	40	Gasoline	311.77444	0.013345819	0.017854439	12.632%	6.15%	3561.180278	1.110284987	1.110284987	4.75269E-05	6.35829E-05
Placer (LT)	2020	LDT1	Aggregate	40	Diesel	330.4467386	0.000462044	0.051941626	12.632%	0.00%	0.058040347	1.91792E-05	1.91792E-05	2.68172E-11	3.01471E-09
Placer (LT)	2020	LDT1	Aggregate	45	Gasoline	312.5737095	0.012276259	0.017553001	18.146%	6.15%	5115.919079	1.599101804	1.599101804	6.28043E-05	8.97997E-05
Placer (LT)	2020	LDT1	Aggregate	45	Diesel	318.6067162	0.000391153	0.050080539	18.146%	0.00%	0.083379581	2.65653E-05	2.65653E-05	3.26142E-11	4.17569E-09
Placer (LT)	2020	LDT2	Aggregate	10	Gasoline	750.771764	0.034525507	0.02357756	0.011%	27.07%	14.10476077	0.010589456	0.010589456	4.86974E-07	3.32556E-07
Placer (LT)	2020	LDT2	Aggregate	10	Diesel	677.3873623	0.008911165	0.10647586	0.011%	0.24%	0.12649342	8.5685E-05	8.5685E-05	1.1272E-09	1.34685E-08
Placer (LT)	2020	LDT2	Aggregate	15	Gasoline	614.2333887	0.02346935	0.020537988	7.441%	27.07%	9228.535285	5.668474501	5.668474501	0.000216588	0.000189536
Placer (LT)	2020	LDT2	Aggregate	15	Diesel	561.6657627	0.004510845	0.088286036	7.441%	0.24%	82.76276432	0.046485011	0.046485011	3.7333E-07	7.3068E-06
Placer (LT)	2020	LDT2	Aggregate	20	Gasoline	510.8101182	0.016790926	0.018250196	0.207%	27.07%	256.4888048	0.131017077	0.131017077	4.30668E-06	4.68097E-06
Placer (LT)	2020	LDT2	Aggregate	20	Diesel	461.4513045	0.001934631	0.072533719	0.207%	0.24%	2.300226617	0.001061443	0.001061443	4.45009E-09	1.66844E-07

Placer (LT)	2020	LDT2	Aggregate	25	Gasoline	436.7811064	0.012633354	0.016535979	9.881%	27.07%	12254.82645	5.352676657	5.352676657	0.00015482	0.000202646
Placer (LT)	2020	LDT2	Aggregate	25	Diesel	386.9102844	0.001234179	0.060816909	9.881%	0.24%	109.9029567	0.042522584	0.042522584	1.3564E-07	6.68396E-06
Placer (LT)	2020	LDT2	Aggregate	30	Gasoline	387.6381761	0.009989603	0.015271863	3.122%	27.07%	3872.412548	1.501094937	1.501094937	3.86839E-05	5.9139E-05
Placer (LT)	2020	LDT2	Aggregate	30	Diesel	334.5679008	0.000955639	0.052589415	3.122%	0.24%	34.72832439	0.011618983	0.011618983	3.31877E-08	1.82634E-06
Placer (LT)	2020	LDT2	Aggregate	35	Gasoline	359.29388	0.008297529	0.014373752	29.790%	27.07%	36946.47026	13.27464065	13.27464065	0.000306564	0.000531059
Placer (LT)	2020	LDT2	Aggregate	35	Diesel	301.9603888	0.000779137	0.047463968	29.790%	0.24%	331.3409893	0.100051854	0.100051854	2.5816E-07	1.57268E-05
Placer (LT)	2020	LDT2	Aggregate	40	Gasoline	347.6692369	0.007237442	0.01378565	12.632%	27.07%	15666.27113	5.446680527	5.446680527	0.000113384	0.00021597
Placer (LT)	2020	LDT2	Aggregate	40	Diesel	281.8258295	0.000661542	0.044299096	12.632%	0.24%	140.4972582	0.039595756	0.039595756	9.29448E-08	6.2239E-06
Placer (LT)	2020	LDT2	Aggregate	45	Gasoline	348.6907122	0.006628393	0.013473522	18.146%	27.07%	22505.84613	7.847579514	7.847579514	0.000149178	0.000303233
Placer (LT)	2020	LDT2	Aggregate	45	Diesel	271.7279112	0.000581639	0.042711844	18.146%	0.24%	201.8355006	0.054844339	0.054844339	1.17395E-07	8.62077E-06
Placer (LT)	2020	LHD1	Aggregate	5	Gasoline	1989.231592	0.116217017	0.047827811	0.002%	3.14%	0.256288254	0.000509817	0.000509817	2.97851E-08	1.22577E-08
Placer (LT)	2020	LHD1	Aggregate	5	Diesel	1300.198663	0.03787594	0.204373124	0.002%	3.41%	0.278080447	0.00036156	0.00036156	1.05326E-08	5.68322E-08
Placer (LT)	2020	LHD1	Aggregate	10	Gasoline	1613.334042	0.076909529	0.042060986	0.011%	3.14%	1.636751924	0.002640628	0.002640628	1.25882E-07	6.88434E-08
Placer (LT)	2020	LHD1	Aggregate	10	Diesel	1093.019846	0.02700853	0.171807499	0.011%	3.41%	1.775924954	0.001941121	0.001941121	4.79651E-08	3.05117E-07
Placer (LT)	2020	LHD1	Aggregate	15	Gasoline	1318.751358	0.053567105	0.037694244	7.441%	3.14%	1070.902452	1.412254063	1.412254063	5.73651E-05	4.03669E-05
Placer (LT)	2020	LHD1	Aggregate	15	Diesel	713.8334248	0.01747582	0.112204674	7.441%	3.41%	1161.961296	0.829446811	0.829446811	2.03062E-05	0.000130377
Placer (LT)	2020	LHD1	Aggregate	20	Gasoline	1095.948537	0.039075623	0.034558251	0.207%	3.14%	29.76360618	0.032619381	0.032619381	1.16303E-06	1.02858E-06
Placer (LT)	2020	LHD1	Aggregate	20	Diesel	608.435201	0.011651993	0.095637541	0.207%	3.41%	32.29440586	0.019649053	0.019649053	3.76294E-07	3.08856E-06
Placer (LT)	2020	LHD1	Aggregate	25	Gasoline	936.6562329	0.029855546	0.032482742	9.881%	3.14%	1422.080893	1.332000932	1.332000932	4.2457E-05	4.61931E-05
Placer (LT)	2020	LHD1	Aggregate	25	Diesel	539.6240771	0.008951774	0.08482139	9.881%	3.41%	1543.000442	0.83264019	0.83264019	1.38126E-05	0.000130879
Placer (LT)	2020	LHD1	Aggregate	30	Gasoline	831.0780886	0.024200343	0.030558886	3.122%	3.14%	449.3644943	0.373456985	0.373456985	1.08748E-05	1.37321E-05
Placer (LT)	2020	LHD1	Aggregate	30	Diesel	490.0369998	0.007389807	0.077026992	3.122%	3.41%	487.5739609	0.238929281	0.238929281	3.60308E-06	3.75564E-05
Placer (LT)	2020	LHD1	Aggregate	35	Gasoline	770.2804814	0.020358923	0.029803863	29.790%	3.14%	4287.361359	3.302470772	3.302470772	8.72861E-05	0.00012778
Placer (LT)	2020	LHD1	Aggregate	35	Diesel	490.0369998	0.006393495	0.077026992	29.790%	3.41%	4651.915731	2.279610828	2.279610828	2.9742E-05	0.000358323
Placer (LT)	2020	LHD1	Aggregate	40	Gasoline	745.4941811	0.017872713	0.029848881	12.632%	3.14%	1817.953515	1.355273767	1.355273767	3.24918E-05	5.42639E-05
Placer (LT)	2020	LHD1	Aggregate	40	Diesel	476.6216304	0.005788103	0.074918283	12.632%	3.41%	1972.534117	0.940152427	0.940152427	1.14172E-05	0.000147779
Placer (LT)	2020	LHD1	Aggregate	45	Gasoline	748.0491194	0.016904624	0.029050212	18.146%	3.14%	2611.635005	1.953631266	1.953631266	4.41487E-05	7.58686E-05
Placer (LT)	2020	LHD1	Aggregate	45	Diesel	464.9068972	0.005479907	0.07307689	18.146%	3.41%	2833.702351	1.317407767	1.317407767	1.55284E-05	0.000207078
Placer (LT)	2020	LHD1	Aggregate	50	Gasoline	770.078646	0.017076739	0.027931526	10.003%	3.14%	1439.717342	1.108695581	1.108695581	2.45857E-05	4.02135E-05
Placer (LT)	2020	LHD1	Aggregate	50	Diesel	487.3927407	0.005425498	0.076611351	10.003%	3.41%	1562.136519	0.761373999	0.761373999	8.47537E-06	0.000119677
Placer (LT)	2020	LHD1	Aggregate	55	Gasoline	801.8604946	0.017181784	0.029614354	8.765%	3.14%	1261.487013	1.0115366	1.0115366	2.16746E-05	3.73581E-05
Placer (LT)	2020	LHD1	Aggregate	55	Diesel	509.3081177	0.005619178	0.080056144	8.765%	3.41%	1368.751264	0.69711613	0.69711613	7.69126E-06	0.000109577
Placer (LT)	2020	LHD2	Aggregate	5	Gasoline	2278.48284	0.086924561	0.038897753	0.002%	0.41%	0.033191359	7.56259E-05	7.56259E-05	2.88514E-09	1.29107E-09
Placer (LT)	2020	LHD2	Aggregate	5	Diesel	1362.078064	0.035796325	0.214099704	0.002%	1.31%	0.106495056	0.000145055	0.000145055	3.81213E-09	2.28006E-08
Placer (LT)	2020	LHD2	Aggregate	10	Gasoline	1848.357404	0.057987048	0.03431247	0.011%	0.41%	0.211972337	0.000391801	0.000391801	1.22917E-08	7.27329E-09
Placer (LT)	2020	LHD2	Aggregate	10	Diesel	1210.521331	0.026009817	0.190277096	0.011%	1.31%	0.680116955	0.000823296	0.000823296	1.76897E-08	1.29411E-07
Placer (LT)	2020	LHD2	Aggregate	15	Gasoline	1511.003275	0.040676631	0.030849279	7.441%	0.41%	138.6903488	0.209561571	0.209561571	5.64146E-06	4.2785E-06
Placer (LT)	2020	LHD2	Aggregate	15	Diesel	805.8076495	0.015209137	0.126661741	7.441%	1.31%	444.9904125	0.358576678	0.358576678	6.76792E-06	5.63633E-05
Placer (LT)	2020	LHD2	Aggregate	20	Gasoline	1255.728204	0.029834057	0.028373817	0.207%	0.41%	3.85462272	0.004840358	0.004840358	1.14999E-07	1.0937E-07
Placer (LT)	2020	LHD2	Aggregate	20	Diesel	687.2946441	0.008755371	0.108033147	0.207%	1.31%	12.36762449	0.008500202	0.008500202	1.08283E-07	1.33611E-06
Placer (LT)	2020	LHD2	Aggregate	25	Gasoline	1073.177278	0.022873288	0.026752558	9.881%	0.41%	184.1707381	0.197647851	0.197647851	4.21259E-06	4.92704E-06
Placer (LT)	2020	LHD2	Aggregate	25	Diesel	612.4870638	0.006400896	0.096274437	9.881%	1.31%	590.915038	0.361927817	0.361927817	3.78239E-06	5.689E-05
Placer (LT)	2020	LHD2	Aggregate	30	Gasoline	952.2136206	0.018634903	0.02524662	3.122%	0.41%	58.19626086	0.055415272	0.055415272	1.08448E-06	1.46926E-06
Placer (LT)	2020	LHD2	Aggregate	30	Diesel	552.3656342	0.005202437	0.086824186	3.122%	1.31%	186.723722	0.103139767	0.103139767	9.71418E-07	1.62121E-05
Placer (LT)	2020	LHD2	Aggregate	35	Gasoline	882.5583027	0.015690523	0.024687431	29.790%	0.41%	555.2472508	0.490038071	0.490038071	8.71212E-06	1.37076E-05
Placer (LT)	2020	LHD2	Aggregate	35	Diesel	552.3656342	0.004439497	0.086824186	29.790%	1.31%	1781.520527	0.984050716	0.984050716	7.90906E-06	0.000154679
Placer (LT)	2020	LHD2	Aggregate	40	Gasoline	854.1742146	0.013746132	0.024777516	12.632%	0.41%	235.4393779	0.201106246	0.201106246	3.23638E-06	5.8336E-06
Placer (LT)	2020	LHD2	Aggregate	40	Diesel	532.1906161	0.003962551	0.083652954	12.632%	1.31%	755.4113666	0.402022841	0.402022841	2.99336E-06	6.31924E-05
Placer (LT)	2020	LHD2	Aggregate	45	Gasoline	857.1811381	0.013065679	0.024168876	18.146%	0.41%	338.2274166	0.289922162	0.289922162	4.41917E-06	8.17458E-06
Placer (LT)	2020	LHD2	Aggregate	45	Diesel	511.5658999	0.003693876	0.080411035	18.146%	1.31%	1085.208589	0.555155708	0.555155708	4.00863E-06	8.72627E-05
Placer (LT)	2020	LHD2	Aggregate	50	Gasoline	882.5228059	0.013318317	0.023289522	10.003%	0.41%	186.454798	0.164550611	0.164550611	2.48326E-06	4.34244E-06
Placer (LT)	2020	LHD2	Aggregate	50	Diesel	530.407733	0.003595779	0.083372709	10.003%	1.31%	598.2434842	0.31731297	0.31731297	2.15115E-06	4.98772E-05
Placer (LT)	2020	LHD2	Aggregate	55	Gasoline	918.8270724	0.013306322	0.024702971	8.765%	0.41%	163.3725589	0.15011113	0.15011113	2.17389E-06	4.03579E-06
Placer (LT)	2020	LHD2	Aggregate	55	Diesel	548.9975511	0.003657784	0.08629477	8.765%	1.31%	524.1837158	0.287775576	0.287775576	1.91735E-06	4.52343E-05
Placer (LT)	2020	MCY	Aggregate	10	Gasoline	448.2654298	1.341413774	0.082649833	0.011%	0.99%	0.517861367	0.000232139	0.000232139	6.94666E-07	4.28012E-08
Placer (LT)	2020	MCY	Aggregate	15	Gasoline	358.9053557	0.935906165	0.077902502	7.441%	0.99%	338.8289938	0.121607541	0.121607541	0.000317112	2.63956E-05
Placer (LT)	2020	MCY	Aggregate	20	Gasoline	294.8721929	0.6871683	0.074586983	0.207%	0.99%	9.417078763	0.002776835	0.002776835	6.47112E-06	7.02391E-07
Placer (LT)	2020	MCY	Aggregate	25	Gasoline	250.3562881	0.530674454	0.072409685	9.881%	0.99%	449.9403631	0.112645399	0.112645399	0.000238772	3.258E-05
Placer (LT)	2020	MCY	Aggregate	30	Gasoline	221.0427546	0.430845226	0.071153917	3.122%	0.99%	142.1770202	0.0314272	0.0314272	6.12563E-05	1.01165E-05
Placer (LT)	2020	MCY	Aggregate	35	Gasoline	203.8256725	0.36758863	0.070662866	29.790%	0.99%	1356.502951	0.276490126	0.276490126	0.000498635	9.58544E-05
Placer (LT)	2020	MCY	Aggregate	40	Gasoline	196.2114148	0.329452945	0.070824022	12.632%	0.99%	575.1927819	0.112859389	0.112859389	0.000189499	4.07375E-05
Placer (LT)	2020	MCY	Aggregate	45	Gasoline	196.110963	0.310085365	0.071560612	18.146%	0.99%	826.3102391	0.162048497	0.162048497	0.000256227	5.91313E-05
Placer (LT)	2020	MDV	Aggregate	10	Gasoline	903.5432131	0.046617271	0.027798019	0.011%	18.65%	9.714250405	0.008777245	0.008777245	4.52852E-07	2.70037E-07
Placer (LT)	2020	MDV	Aggregate	10	Diesel	844.5942378	0.007468856	0.132758453	0.011%	0.70%	0.362939475	0.000306537	0.000306537	2.71074E-09	4.81833E-08
Placer (LT)	2020	MDV	Aggregate	15	Gasoline	738.9829974	0.031945947	0.024255017	7.441%	18.65%	6355.889625	4.696894366	4.696894366	0.000203045	0.000154162
Placer (LT)	2020	MDV	Aggregate	15	Diesel	716.2726309	0.003828204	0.112588083	7.441%	0.70%	237.4659031	0.170090327	0.170090327	9.09068E-07	2.67358E-05
Placer (LT)	2020	MDV	Aggregate	20	Gasoline	614.4226657	0.023040259	0.021599381	0.207%	18.65%	176.6493255	0.108537349	0.108537349	4.07005E-06	3.81552E-06
Placer (LT)	2020	MDV	Aggregate	20	Diesel	594.8615839	0.001693716	0.093503957	0.207%	0.70%	6.599893024	0.003926023	0.003926023	1.11783E-08	6.17116E-07
Placer (LT)	2020	MDV	Aggregate	25	Gasoline	525.3060592	0.01747606	0.019619126	9.881%	18.65%	8440.161077	4.433667755	4.433667755	0.000147501	0.000165589
Placer (LT)	2020	MDV	Aggregate	25	Diesel	503.0166794	0.001099433	0.079067217	9.881%	0.70%	315.3375201	0.158620032	0.158620032	3.46693E-07	2.49329E-05
Placer (LT)	2020	MDV	Aggregate	30	Gasoline	466.169708	0.013932146	0.018167867	3.122%	18.65%	2667.013342	1.243280831	1.243280831	3.71572E-05	4.84539E-05
Placer (LT)	2020	MDV	Aggregate	30	Diesel	434.4497619	0.000857022	0.068289452	3.122%	0.70%	99.64375866	0.043290207	0.043290207	8.53969E-08	6.80462E-06
Placer (LT)	2020	MDV	Aggregate	35	Gasoline	432.077297	0.011668256	0.017146212	29.790%	18.65%	25445.82426	10.99456296	10.99456296	0.000296908	0.000436299
Placer (LT)	2020	MDV	Aggregate	35	Diesel	394.2030809	0.000703332	0.061963235	29.790%	0.70%	950.6954956	0.374767093	0.374767093	6.68655E-07	5.89082E-05
Placer (LT)	2020	MDV	Aggregate	40	Gasoline	418.1159886	0.01026285	0.016488261	12.632%	18.65%	10789.69599	4.511344404	4.511344404	0.000110733	0.000177903
Placer (LT)	2020	MDV	Aggregate	40	Diesel	368.7227592	0.000601664	0.057958083	12.632%	0.70%	403.1197916	0.148639442	0.148639442	2.42543E-07	2.33641E-05

Placer (LT)	2020	MDV	Aggregate	45	Gasoline	419.3887113	0.00947837	0.016154243	18.146%	18.65%	15500.25757	6.500633046	6.500633046	0.000146917	0.000250395
Placer (LT)	2020	MDV	Aggregate	45	Diesel	354.8424105	0.00053387	0.055776285	18.146%	0.70%	579.1136849	0.205494096	0.205494096	3.09172E-07	3.23008E-05
Placer (LT)	2020	MH	Aggregate	5	Gasoline	4253.992772	0.339879868	0.090125545	0.002%	0.14%	0.011542352	4.91011E-05	4.91011E-05	3.92301E-09	1.04026E-09
Placer (LT)	2020	MH	Aggregate	5	Diesel	2119.064968	0.050980799	0.333087503	0.002%	0.05%	0.004228913	8.96134E-06	8.96134E-06	2.15593E-10	1.4086E-09
Placer (LT)	2020	MH	Aggregate	10	Gasoline	3444.755476	0.228494828	0.080723593	0.011%	0.14%	0.073713742	0.000253926	0.000253926	1.68432E-08	5.95044E-09
Placer (LT)	2020	MH	Aggregate	10	Diesel	1924.120099	0.038580511	0.302444885	0.011%	0.05%	0.027007408	5.19655E-05	5.19655E-05	1.04196E-09	8.16825E-09
Placer (LT)	2020	MH	Aggregate	15	Gasoline	2812.956332	0.161882193	0.073036065	7.441%	0.14%	48.2298054	0.135668337	0.135668337	7.80755E-06	3.52252E-06
Placer (LT)	2020	MH	Aggregate	15	Diesel	1579.869393	0.019759343	0.248333468	7.441%	0.05%	17.67054531	0.027917154	0.027917154	3.49158E-07	4.38819E-06
Placer (LT)	2020	MH	Aggregate	20	Gasoline	2336.448965	0.120251395	0.067733023	0.207%	0.14%	1.340451627	0.003131897	0.003131897	1.61191E-07	9.07928E-08
Placer (LT)	2020	MH	Aggregate	20	Diesel	1296.47073	0.008910718	0.203787144	0.207%	0.05%	0.491117702	0.00063672	0.00063672	4.37621E-09	1.00083E-07
Placer (LT)	2020	MH	Aggregate	25	Gasoline	1996.287656	0.093816551	0.063812599	9.881%	0.14%	64.04568838	0.127853617	0.127853617	6.00855E-06	4.08692E-06
Placer (LT)	2020	MH	Aggregate	25	Diesel	1162.881552	0.006344619	0.182788786	9.881%	0.05%	23.46520432	0.027287253	0.027287253	1.48878E-07	4.28918E-06
Placer (LT)	2020	MH	Aggregate	30	Gasoline	1770.975764	0.076846645	0.061067796	3.122%	0.14%	20.237849	0.03584074	0.03584074	1.55521E-06	1.23588E-06
Placer (LT)	2020	MH	Aggregate	30	Diesel	1091.540179	0.005221909	0.171574916	3.122%	0.05%	7.414788941	0.00809354	0.00809354	3.87194E-08	1.27219E-06
Placer (LT)	2020	MH	Aggregate	35	Gasoline	1641.398477	0.066010128	0.059460379	29.790%	0.14%	193.0881788	0.316934642	0.316934642	1.27458E-05	1.14811E-05
Placer (LT)	2020	MH	Aggregate	35	Diesel	1032.335685	0.00436223	0.162268794	29.790%	0.05%	70.74408414	0.073031643	0.073031643	3.08602E-07	1.14796E-05
Placer (LT)	2020	MH	Aggregate	40	Gasoline	1588.742866	0.059507037	0.058672595	12.632%	0.14%	81.87444534	0.130077441	0.130077441	4.87211E-06	4.80379E-06
Placer (LT)	2020	MH	Aggregate	40	Diesel	985.2680691	0.003726349	0.15487042	12.632%	0.05%	29.99734467	0.029555426	0.029555426	1.11781E-07	4.6457E-06
Placer (LT)	2020	MH	Aggregate	45	Gasoline	1594.370961	0.056357576	0.058023247	18.146%	0.14%	117.6191612	0.187528575	0.187528575	6.62873E-06	6.82465E-06
Placer (LT)	2020	MH	Aggregate	45	Diesel	950.3373312	0.003295281	0.149379794	18.146%	0.05%	43.09357459	0.040953433	0.040953433	1.42005E-07	6.43731E-06
Placer (LT)	2020	MH	Aggregate	50	Gasoline	1641.943754	0.055841094	0.058894215	10.003%	0.14%	64.8399741	0.10646359	0.10646359	3.62074E-06	3.8187E-06
Placer (LT)	2020	MH	Aggregate	50	Diesel	927.5434715	0.003058825	0.145796917	10.003%	0.05%	23.75621652	0.022034924	0.022034924	7.26661E-08	3.46358E-06
Placer (LT)	2020	MH	Aggregate	55	Gasoline	1711.384232	0.05798049	0.060587779	8.765%	0.14%	56.81308607	0.09722902	0.09722902	3.29405E-06	3.44218E-06
Placer (LT)	2020	MH	Aggregate	55	Diesel	916.88649	0.003011055	0.144121788	8.765%	0.05%	20.81530712	0.019085274	0.019085274	6.2676E-08	2.99994E-06
Placer (LT)	2020	MH	Aggregate	60	Gasoline	1784.716786	0.063199959	0.062366299	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2020	MH	Aggregate	60	Diesel	918.3663866	0.003164316	0.144354407	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	MH	Aggregate	65	Gasoline	1846.139565	0.072568041	0.063437886	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2020	MH	Aggregate	65	Diesel	931.9831614	0.003511712	0.146494774	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	5	Diesel	3794.072171	0.168831616	0.59637531	0.002%	0.13%	0.010415192	3.9516E-05	3.9516E-05	1.75841E-09	6.21136E-09
Placer (LT)	2020	Motor Coach	Aggregate	10	Diesel	3231.718387	0.127922292	0.507981126	0.011%	0.13%	0.066515282	0.000214959	0.000214959	8.50879E-09	3.37885E-08
Placer (LT)	2020	Motor Coach	Aggregate	15	Diesel	2592.853279	0.06730631	0.407560428	7.441%	0.13%	43.51995989	0.112840871	0.112840871	2.92917E-06	1.7737E-05
Placer (LT)	2020	Motor Coach	Aggregate	20	Diesel	2203.673599	0.032715489	0.346386802	0.207%	0.13%	1.209550828	0.002665455	0.002665455	3.9571E-08	4.18972E-07
Placer (LT)	2020	Motor Coach	Aggregate	25	Diesel	1946.080371	0.023502974	0.305896734	9.881%	0.13%	57.79135466	0.112466621	0.112466621	1.35827E-06	1.76782E-05
Placer (LT)	2020	Motor Coach	Aggregate	30	Diesel	1750.327036	0.018544056	0.275127035	3.122%	0.13%	18.26153702	0.031963662	0.031963662	3.38643E-07	5.02424E-06
Placer (LT)	2020	Motor Coach	Aggregate	35	Diesel	1598.305737	0.014758534	0.251231404	29.790%	0.13%	174.2322973	0.27847648	0.27847648	2.57141E-06	4.37726E-05
Placer (LT)	2020	Motor Coach	Aggregate	40	Diesel	1488.408092	0.012073118	0.233957025	12.632%	0.13%	73.87905772	0.109962187	0.109962187	8.91951E-07	1.72845E-05
Placer (LT)	2020	Motor Coach	Aggregate	45	Diesel	1419.691032	0.010421401	0.22315566	18.146%	0.13%	106.1331501	0.150676281	0.150676281	1.10606E-06	2.36842E-05
Placer (LT)	2020	Motor Coach	Aggregate	50	Diesel	1391.566379	0.009738872	0.218734856	10.003%	0.13%	58.508075	0.08141787	0.08141787	5.69803E-07	1.27978E-05
Placer (LT)	2020	Motor Coach	Aggregate	55	Diesel	1403.654891	0.009959238	0.220635002	8.765%	0.13%	51.26504671	0.071958434	0.071958434	5.10561E-07	1.13109E-05
Placer (LT)	2020	Motor Coach	Aggregate	60	Diesel	1457.324273	0.010508862	0.229071081	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	65	Diesel	1549.17571	0.010633605	0.243508848	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	70	Diesel	1549.17571	0.010709376	0.243508848	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	75	Diesel	1549.17571	0.010803823	0.243508848	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	80	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	85	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	90	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	OBUS	Aggregate	5	Gasoline	4201.984015	0.16049121	0.085898784	0.002%	0.18%	0.014979089	6.29419E-05	6.29419E-05	2.40401E-09	1.28669E-09
Placer (LT)	2020	OBUS	Aggregate	10	Gasoline	3411.385852	0.100954344	0.074661286	0.011%	0.18%	0.095662022	0.00032634	0.00032634	9.6575E-09	7.14225E-09
Placer (LT)	2020	OBUS	Aggregate	15	Gasoline	2790.298597	0.067352651	0.065475387	7.441%	0.18%	62.59023866	0.174645455	0.174645455	4.21562E-06	4.09812E-06
Placer (LT)	2020	OBUS	Aggregate	20	Gasoline	2319.81556	0.047151132	0.058772334	0.207%	0.18%	1.739571341	0.004035485	0.004035485	8.20228E-08	1.02239E-07
Placer (LT)	2020	OBUS	Aggregate	25	Gasoline	1983.156185	0.03482034	0.053596534	9.881%	0.18%	83.11530365	0.164830628	0.164830628	2.8941E-06	4.45469E-06
Placer (LT)	2020	OBUS	Aggregate	30	Gasoline	1759.83409	0.027119453	0.049699697	3.122%	0.18%	26.26367219	0.046219706	0.046219706	7.12256E-07	1.3053E-06
Placer (LT)	2020	OBUS	Aggregate	35	Gasoline	1631.239477	0.02223018	0.046972085	29.790%	0.18%	250.5802188	0.408756345	0.408756345	5.57044E-06	1.17703E-05
Placer (LT)	2020	OBUS	Aggregate	40	Gasoline	1578.807245	0.019226301	0.045129224	12.632%	0.18%	106.2525762	0.167752337	0.167752337	2.04284E-06	4.7951E-06
Placer (LT)	2020	OBUS	Aggregate	45	Gasoline	1583.990955	0.01763716	0.043671881	18.146%	0.18%	152.6402876	0.241780835	0.241780835	2.69214E-06	6.66609E-06
Placer (LT)	2020	OBUS	Aggregate	50	Gasoline	1630.012768	0.016925367	0.043516747	10.003%	0.18%	84.14608809	0.137159198	0.137159198	1.4242E-06	3.66176E-06
Placer (LT)	2020	OBUS	Aggregate	55	Gasoline	1696.49229	0.017103655	0.044171441	8.765%	0.18%	73.7291927	0.125081007	0.125081007	1.26104E-06	3.25672E-06
Placer (LT)	2020	OBUS	Aggregate	60	Gasoline	1764.900522	0.018326283	0.04516702	0.000%	0.18%	0	0	0	0	0
Placer (LT)	2020	OBUS	Aggregate	65	Gasoline	1818.571459	0.021014136	0.046034481	0.000%	0.18%	0	0	0	0	0
Placer (LT)	2020	PTO	Aggregate	20	Diesel	2273.36592	0.082612759	0.357341464	0.207%	0.00%	0.044749113	0.000101731	0.000101731	3.69685E-09	1.59907E-08
Placer (LT)	2020	SBUS	Aggregate	5	Gasoline	1927.502971	0.115112783	0.059961055	0.002%	0.01%	0.000517225	9.96954E-07	9.96954E-07	5.95393E-11	3.10134E-11
Placer (LT)	2020	SBUS	Aggregate	5	Diesel	2427.885885	0.029522971	0.381629851	0.002%	0.03%	0.002635527	6.39876E-06	6.39876E-06	7.78086E-11	1.0058E-09
Placer (LT)	2020	SBUS	Aggregate	10	Gasoline	1565.016882	0.072627033	0.051899011	0.011%	0.01%	0.003303193	5.16955E-06	5.16955E-06	2.39901E-10	1.71432E-10
Placer (LT)	2020	SBUS	Aggregate	10	Diesel	2131.888984	0.022152843	0.33510326	0.011%	0.03%	0.016831452	3.58828E-05	3.58828E-05	3.72865E-10	5.64027E-09
Placer (LT)	2020	SBUS	Aggregate	15	Gasoline	1280.260661	0.048208091	0.045824024	7.441%	0.01%	2.161230368	0.002766938	0.002766938	1.04189E-07	9.90363E-08
Placer (LT)	2020	SBUS	Aggregate	15	Diesel	1725.19689	0.011263956	0.271176926	7.441%	0.03%	11.01256903	0.01899885	0.01899885	1.24045E-07	2.98635E-06
Placer (LT)	2020	SBUS	Aggregate	20	Gasoline	1064.57549	0.033767735	0.041095396	0.207%	0.01%	0.060067105	6.3946E-05	6.3946E-05	2.02833E-09	2.46848E-09
Placer (LT)	2020	SBUS	Aggregate	20	Diesel	1435.145158	0.005182913	0.225584833	0.207%	0.03%	0.306072479	0.000439258	0.000439258	1.58635E-09	6.90453E-08
Placer (LT)	2020	SBUS	Aggregate	25	Gasoline	910.2079897	0.024933898	0.037490182	9.881%	0.01%	2.869957395	0.002612258	0.002612258	7.15592E-08	1.07595E-07
Placer (LT)	2020	SBUS	Aggregate	25	Diesel	1275.20329	0.003778829	0.200444199	9.881%	0.03%	14.62389405	0.018648438	0.018648438	5.52612E-08	2.93127E-06
Placer (LT)	2020	SBUS	Aggregate	30	Gasoline	807.7644723	0.019423652	0.034750257	3.122%	0.01%	0.906880164	0.000732546	0.000732546	1.76149E-08	3.15143E-08
Placer (LT)	2020	SBUS	Aggregate	30	Diesel	1170.900748	0.003081131	0.184049292	3.122%	0.03%	4.621016139	0.005410751	0.005410751	1.4238E-08	8.50495E-07
Placer (LT)	2020	SBUS	Aggregate	35	Gasoline	748.7082337	0.015927288	0.032833913	29.790%	0.01%	8.652492628	0.006478192	0.006478192	1.37811E-07	2.84095E-07
Placer (LT)	2020	SBUS	Aggregate	35	Diesel	1087.593252	0.002535837	0.170954514	29.790%	0.03%	44.08885501	0.047950741	0.047950741	1.11802E-07	7.53719E-06
Placer (LT)	2020	SBUS	Aggregate	40	Gasoline	724.5423533	0.013789869	0.031484701	12.632%	0.01%	3.668883509	0.002658261	0.002658261	5.05934E-08	1.15514E-07
Placer (LT)	2020	SBUS	Aggregate	40	Diesel	1025.280803	0.002142946	0.161159864	12.632%	0.03%	18.69482934	0.01916745	0.01916745	4.0062E-08	3.01286E-06

Placer (LT)	2020	SBUS	Aggregate	45	Gasoline	726.7607751	0.012606631	0.030639154	18.146%	0.01%	5.270643348	0.003830497	0.003830497	6.64451E-08	1.61488E-07
Placer (LT)	2020	SBUS	Aggregate	45	Diesel	983.9633991	0.001902459	0.154665344	18.146%	0.03%	26.85661119	0.026425922	0.026425922	5.10936E-08	4.15379E-06
Placer (LT)	2020	SBUS	Aggregate	50	Gasoline	747.7236471	0.012208386	0.030121504	10.003%	0.01%	2.905550208	0.002172549	0.002172549	3.54721E-08	8.75195E-08
Placer (LT)	2020	SBUS	Aggregate	50	Diesel	963.641043	0.001814376	0.151470952	10.003%	0.03%	14.80525755	0.014266954	0.014266954	2.68623E-08	2.24257E-06
Placer (LT)	2020	SBUS	Aggregate	55	Gasoline	778.0038311	0.012245429	0.030873649	8.765%	0.01%	2.54585657	0.001980686	0.001980686	3.11751E-08	7.85999E-08
Placer (LT)	2020	SBUS	Aggregate	55	Diesel	964.3137317	0.001878697	0.15157669	8.765%	0.03%	12.97243534	0.012509498	0.012509498	2.43713E-08	1.96632E-06
Placer (LT)	2020	SBUS	Aggregate	60	Gasoline	809.2404198	0.013201736	0.031330214	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	60	Diesel	984.3481406	0.001975499	0.15472582	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	65	Diesel	1017.157098	0.00199535	0.159882931	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	70	Diesel	1017.157098	0.002021693	0.159882931	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	75	Diesel	1017.157098	0.002054528	0.159882931	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	80	Diesel	0	0	0	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	85	Diesel	0	0	0	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	90	Diesel	0	0	0	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	5	Diesel	2466.794891	0.035621211	0.387745805	0.002%	0.02%	0.002031633	5.01162E-06	5.01162E-06	7.23692E-11	7.87757E-10
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	10	Diesel	2072.818926	0.026812466	0.325818269	0.011%	0.02%	0.012974765	2.68943E-05	2.68943E-05	3.47885E-10	4.22742E-09
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	15	Diesel	1649.239364	0.014348831	0.259237461	7.441%	0.02%	8.489195874	0.014000716	0.014000716	1.2181E-07	2.20072E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	20	Diesel	1405.73915	0.00740588	0.220962618	0.207%	0.02%	0.235940335	0.000331671	0.000331671	1.74735E-09	5.2134E-08
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	25	Diesel	1235.072664	0.005558997	0.194136223	9.881%	0.02%	11.27303726	0.01392302	0.01392302	6.26668E-08	2.1885E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	30	Diesel	1092.851697	0.004565335	0.171781068	3.122%	0.02%	3.562176186	0.00389293	0.00389293	1.62625E-08	6.11914E-07
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	35	Diesel	982.7510894	0.003780496	0.154474786	29.790%	0.02%	33.98652258	0.033400292	0.033400292	1.28486E-07	5.25006E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	40	Diesel	903.6300617	0.003184812	0.142038062	12.632%	0.02%	14.41117578	0.013022372	0.013022372	4.58969E-08	2.04694E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	45	Diesel	854.6027225	0.002763471	0.134331647	18.146%	0.02%	20.70280171	0.017692671	0.017692671	5.72116E-08	2.78104E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	50	Diesel	834.9166051	0.002505153	0.131237263	10.003%	0.02%	11.4128439	0.009528773	0.009528773	2.85909E-08	1.49779E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	55	Diesel	848.9780509	0.002401033	0.133447527	8.765%	0.02%	9.999986769	0.008489769	0.008489769	2.40103E-08	1.33447E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	60	Diesel	892.5958862	0.002429476	0.140303643	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	65	Diesel	964.4139086	0.002490394	0.151592436	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	70	Diesel	964.4139086	0.002532862	0.151592436	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	75	Diesel	964.4139086	0.002585796	0.151592436	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	5	Diesel	2488.346019	0.069356686	0.391133342	0.002%	0.00%	0.000252024	6.27122E-07	6.27122E-07	1.74795E-11	9.85748E-11
Placer (LT)	2020	T6 CAIRP small	Aggregate	10	Diesel	2110.825782	0.052254868	0.331792418	0.011%	0.00%	0.001609517	3.39741E-06	3.39741E-06	8.41051E-11	5.34025E-10
Placer (LT)	2020	T6 CAIRP small	Aggregate	15	Diesel	1689.132529	0.027476513	0.265508111	7.441%	0.00%	1.053082726	0.001778796	0.001778796	2.8935E-08	2.79602E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	20	Diesel	1436.795808	0.013788267	0.225844292	0.207%	0.00%	0.029268342	4.20526E-05	4.20526E-05	4.0356E-10	6.61009E-09
Placer (LT)	2020	T6 CAIRP small	Aggregate	25	Diesel	1266.80318	0.010384495	0.199123819	9.881%	0.00%	1.398417587	0.00177152	0.00177152	1.45219E-08	2.78458E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	30	Diesel	1135.606776	0.008581128	0.178501571	3.122%	0.00%	0.441887107	0.00050181	0.00050181	3.79189E-09	7.88775E-08
Placer (LT)	2020	T6 CAIRP small	Aggregate	35	Diesel	1033.801962	0.00714239	0.162499272	29.790%	0.00%	4.216020031	0.00435853	0.00435853	3.01125E-08	6.851E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	40	Diesel	960.5361835	0.006038053	0.150982912	12.632%	0.00%	1.787702923	0.001717153	0.001717153	1.07942E-08	2.69913E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	45	Diesel	915.3096371	0.005245178	0.143873929	18.146%	0.00%	2.568177621	0.002350678	0.002350678	1.34705E-08	3.69494E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	50	Diesel	897.8070465	0.004746026	0.141122765	10.003%	0.00%	1.415760568	0.00127108	0.00127108	6.71924E-09	1.99796E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	55	Diesel	907.8185726	0.004526523	0.142696437	8.765%	0.00%	1.240495977	0.001126145	0.001126145	5.61513E-09	1.77014E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	60	Diesel	946.5480098	0.004544001	0.148784166	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	65	Diesel	1011.696008	0.004602286	0.159024524	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	70	Diesel	1011.696008	0.004637107	0.159024524	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	75	Diesel	1011.696008	0.004680509	0.159024524	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 CAIRP small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	5	Diesel	2448.461483	0.132658568	0.384864048	0.002%	0.06%	0.005149552	1.26085E-05	1.26085E-05	6.83132E-10	1.98188E-09
Placer (LT)	2020	T6 instate construction heavy	Aggregate	10	Diesel	2113.744642	0.101124833	0.332251222	0.011%	0.06%	0.032886949	6.95146E-05	6.95146E-05	3.32569E-09	1.09267E-08
Placer (LT)	2020	T6 instate construction heavy	Aggregate	15	Diesel	1706.161797	0.053654258	0.268184875	7.441%	0.06%	21.51744153	0.036712237	0.036712237	1.1545E-06	5.77065E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	20	Diesel	1441.684897	0.025828965	0.226612789	0.207%	0.06%	0.59803454	0.000862177	0.000862177	1.54466E-08	1.35522E-07
Placer (LT)	2020	T6 instate construction heavy	Aggregate	25	Diesel	1278.064068	0.018674271	0.200893873	9.881%	0.06%	28.57360388	0.036518896	0.036518896	5.33591E-07	5.74026E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	30	Diesel	1160.28844	0.015183913	0.182381185	3.122%	0.06%	9.028996258	0.01047624	0.01047624	1.37095E-07	1.64672E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	35	Diesel	1067.952407	0.012472039	0.167867246	29.790%	0.06%	86.14514534	0.091998915	0.091998915	1.07441E-06	1.44609E-05
Placer (LT)	2020	T6 instate construction heavy	Aggregate	40	Diesel	1000.070656	0.010506946	0.15719718	12.632%	0.06%	36.52779802	0.036530379	0.036530379	3.83796E-07	5.74207E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	45	Diesel	956.0655218	0.009263186	0.150280186	18.146%	0.06%	52.47509091	0.050169625	0.050169625	4.86087E-07	7.88597E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	50	Diesel	935.5738916	0.008719384	0.147059187	10.003%	0.06%	28.92796974	0.027064253	0.027064253	2.52234E-07	4.25412E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	55	Diesel	938.3564163	0.008856637	0.147496561	8.765%	0.06%	25.34682127	0.023784352	0.023784352	2.24488E-07	3.73857E-06
Placer (LT)	2020	T6 instate construction heavy	Aggregate	60	Diesel	965.2555949	0.009204938	0.151724738	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	65	Diesel	1012.273602	0.009250204	0.159115313	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	70	Diesel	1012.273602	0.009276682	0.159115313	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	75	Diesel	1012.273602	0.009309685	0.159115313	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	5	Diesel	2466.877898	0.120487155	0.387758852	0.002%	0.33%	0.026919394	6.64069E-05	6.64069E-05	3.24344E-09	1.04382E-08
Placer (LT)	2020	T6 instate construction small	Aggregate	10	Diesel	2114.529119	0.090856485	0.332374531	0.011%	0.33%	0.17191724	0.000363524	0.000363524	1.56198E-08	5.71409E-08
Placer (LT)	2020	T6 instate construction small	Aggregate	15	Diesel	1699.613258	0.047012649	0.267155536	7.441%	0.33%	112.4828941	0.191177418	0.191177418	5.28812E-06	3.00504E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	20	Diesel	1438.243412	0.022533079	0.226071836	0.207%	0.33%	3.126238582	0.004496292	0.004496292	7.04438E-08	7.06754E-07
Placer (LT)	2020	T6 instate construction small	Aggregate	25	Diesel	1271.737099	0.016649857	0.199899362	9.881%	0.33%	149.3691364	0.189958272	0.189958272	2.48697E-06	2.98588E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	30	Diesel	1148.630846	0.01362768	0.180548773	3.122%	0.33%	47.19927454	0.054214543	0.054214543	6.43217E-07	8.52177E-06
Placer (LT)	2020	T6 instate construction small	Aggregate	35	Diesel	1052.484047	0.011245512	0.165435836	29.790%	0.33%	450.325623	0.473960534	0.473960534	5.06414E-06	7.45E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	40	Diesel	982.5018433	0.009474765	0.154435608	12.632%	0.33%	190.9498595	0.187608589	0.187608589	1.80921E-06	2.94895E-05

Placer (LT)	2020	T6 instate construction small	Aggregate	45	Diesel	938.2182319	0.008292487	0.147474841	18.146%	0.33%	274.3146803	0.257367034	0.257367034	2.27475E-06	4.04545E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	50	Diesel	919.3400842	0.007679393	0.144507459	10.003%	0.33%	151.2215917	0.139024071	0.139024071	1.16129E-06	2.18526E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	55	Diesel	925.6738035	0.007618421	0.145503031	8.765%	0.33%	132.5010601	0.12265276	0.12265276	1.00945E-06	1.92793E-05
Placer (LT)	2020	T6 instate construction small	Aggregate	60	Diesel	957.8921261	0.007820456	0.150567303	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	65	Diesel	1012.600979	0.007870697	0.159166773	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	70	Diesel	1012.600979	0.007898446	0.159166773	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	75	Diesel	1012.600979	0.007933034	0.159166773	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	80	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	85	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate construction small	Aggregate	90	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	5	Diesel	2456.352861	0.165006751	0.386104463	0.002%	0.29%	0.023253549	5.71189E-05	5.71189E-05	3.83699E-09	8.9783E-09
Placer (LT)	2020	T6 instate heavy	Aggregate	10	Diesel	2107.192044	0.128104765	0.331221245	0.011%	0.29%	0.148505794	0.00031293	0.00031293	1.90243E-08	4.91883E-08
Placer (LT)	2020	T6 instate heavy	Aggregate	15	Diesel	1688.111655	0.070533042	0.265347644	7.441%	0.29%	97.1651331	0.164025594	0.164025594	6.85335E-06	2.57825E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	20	Diesel	1419.279813	0.033971452	0.223091022	0.207%	0.29%	2.700511845	0.003832782	0.003832782	9.17403E-08	6.0246E-07
Placer (LT)	2020	T6 instate heavy	Aggregate	25	Diesel	1252.863273	0.024246751	0.196932659	9.881%	0.29%	129.0282593	0.161654767	0.161654767	3.12852E-06	2.54099E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	30	Diesel	1125.333645	0.020209782	0.176886778	3.122%	0.29%	40.77174427	0.045881816	0.045881816	8.23988E-07	7.21198E-06
Placer (LT)	2020	T6 instate heavy	Aggregate	35	Diesel	1025.035693	0.017038006	0.161121336	29.790%	0.29%	389.0009183	0.398739826	0.398739826	6.6278E-06	6.26763E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	40	Diesel	951.4342118	0.014728361	0.149552209	12.632%	0.29%	164.9465784	0.156935818	0.156935818	2.42939E-06	2.46681E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	45	Diesel	904.0357649	0.013277625	0.142101833	18.146%	0.29%	236.9588962	0.214219317	0.214219317	3.14625E-06	3.36723E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	50	Diesel	882.3695567	0.012682208	0.138696207	10.003%	0.29%	130.6284498	0.115262567	0.115262567	1.65666E-06	1.81177E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	55	Diesel	891.2545805	0.012938002	0.140092809	8.765%	0.29%	114.4572537	0.102010552	0.102010552	1.48085E-06	1.60346E-05
Placer (LT)	2020	T6 instate heavy	Aggregate	60	Diesel	924.49533	0.013404864	0.145317792	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	65	Diesel	978.3083865	0.013445447	0.153776455	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	70	Diesel	978.3083865	0.013470372	0.153776455	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	75	Diesel	978.3083865	0.013501439	0.153776455	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.29%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	5	Diesel	2429.950021	0.170069299	0.381954304	0.002%	0.47%	0.038444353	9.34179E-05	9.34179E-05	6.5382E-09	1.4684E-08
Placer (LT)	2020	T6 instate small	Aggregate	10	Diesel	2120.914557	0.128686688	0.333378233	0.011%	0.47%	0.245519906	0.000520727	0.000520727	3.15951E-08	8.1851E-08
Placer (LT)	2020	T6 instate small	Aggregate	15	Diesel	1725.588804	0.066968069	0.27123853	7.441%	0.47%	160.6400245	0.277198628	0.277198628	1.07578E-05	4.35718E-05
Placer (LT)	2020	T6 instate small	Aggregate	20	Diesel	1458.599419	0.032243313	0.229271516	0.207%	0.47%	4.464670351	0.006512166	0.006512166	1.43956E-07	1.02362E-06
Placer (LT)	2020	T6 instate small	Aggregate	25	Diesel	1299.082608	0.023666944	0.204197695	9.881%	0.47%	213.3183176	0.277118116	0.277118116	5.04859E-06	4.35591E-05
Placer (LT)	2020	T6 instate small	Aggregate	30	Diesel	1188.576282	0.019203339	0.18682764	3.122%	0.47%	67.40662815	0.080117919	0.080117919	1.29443E-06	1.25934E-05
Placer (LT)	2020	T6 instate small	Aggregate	35	Diesel	1101.502703	0.015712649	0.173140886	29.790%	0.47%	643.122847	0.708401554	0.708401554	1.01052E-05	0.000111351
Placer (LT)	2020	T6 instate small	Aggregate	40	Diesel	1036.285607	0.013139951	0.162889666	12.632%	0.47%	272.7009324	0.282596051	0.282596051	3.58328E-06	4.44202E-05
Placer (LT)	2020	T6 instate small	Aggregate	45	Diesel	992.0008665	0.011440641	0.155928722	18.146%	0.47%	391.7566071	0.388622894	0.388622894	4.48195E-06	6.10861E-05
Placer (LT)	2020	T6 instate small	Aggregate	50	Diesel	968.067613	0.010576656	0.152166748	10.003%	0.47%	215.9638617	0.20906762	0.20906762	2.28418E-06	3.28625E-05
Placer (LT)	2020	T6 instate small	Aggregate	55	Diesel	964.1030015	0.010513698	0.151543566	8.765%	0.47%	189.2285374	0.182435801	0.182435801	1.98949E-06	2.86764E-05
Placer (LT)	2020	T6 instate small	Aggregate	60	Diesel	981.8598188	0.010807209	0.15433469	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	65	Diesel	1016.591407	0.010832628	0.159794012	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	70	Diesel	1016.591407	0.010849619	0.159794012	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	75	Diesel	1016.591407	0.010870798	0.159794012	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	80	Diesel	0	0	0	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	85	Diesel	0	0	0	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 instate small	Aggregate	90	Diesel	0	0	0	0.000%	0.47%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	5	Diesel	2467.586355	0.038944761	0.387870212	0.002%	0.01%	0.001191639	2.94047E-06	2.94047E-06	4.64081E-11	4.62201E-10
Placer (LT)	2020	T6 OOS heavy	Aggregate	10	Diesel	2074.690428	0.029267846	0.326112443	0.011%	0.01%	0.007610251	1.57889E-05	1.57889E-05	2.22736E-10	2.4818E-09
Placer (LT)	2020	T6 OOS heavy	Aggregate	15	Diesel	1651.46474	0.015537834	0.259587259	7.441%	0.01%	4.979273957	0.008223095	0.008223095	7.73671E-08	1.29256E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	20	Diesel	1407.664649	0.007954266	0.22126528	0.207%	0.01%	0.138389028	0.000194805	0.000194805	1.10078E-09	3.06207E-08
Placer (LT)	2020	T6 OOS heavy	Aggregate	25	Diesel	1237.094553	0.005968618	0.194454036	9.881%	0.01%	6.612115176	0.008179812	0.008179812	3.94652E-08	1.28575E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	30	Diesel	1095.142812	0.004887112	0.172141199	3.122%	0.01%	2.089367636	0.002288156	0.002288156	1.0211E-08	3.59666E-07
Placer (LT)	2020	T6 OOS heavy	Aggregate	35	Diesel	985.2270558	0.00403408	0.154863973	29.790%	0.01%	19.93453907	0.019640047	0.019640047	8.04175E-08	3.08714E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	40	Diesel	906.1748018	0.003388538	0.14243806	12.632%	0.01%	8.452766709	0.007659684	0.007659684	2.86425E-08	1.204E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	45	Diesel	857.0824313	0.00293454	0.134721423	18.146%	0.01%	12.14307255	0.010407614	0.010407614	3.56343E-08	1.63593E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	50	Diesel	837.1871234	0.002659729	0.131594157	10.003%	0.01%	6.694117708	0.005604229	0.005604229	1.78045E-08	8.80907E-07
Placer (LT)	2020	T6 OOS heavy	Aggregate	55	Diesel	850.9053339	0.002554268	0.133750469	8.765%	0.01%	5.865416987	0.004990915	0.004990915	1.49818E-08	7.84502E-07
Placer (LT)	2020	T6 OOS heavy	Aggregate	60	Diesel	894.0750442	0.002588201	0.140536146	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	65	Diesel	965.3027179	0.002648609	0.151732145	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	70	Diesel	965.3027179	0.002690028	0.151732145	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	75	Diesel	965.3027179	0.002741655	0.151732145	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	5	Diesel	2488.328955	0.072529512	0.39113066	0.002%	0.00%	0.000164988	4.10544E-07	4.10544E-07	1.19665E-11	6.45317E-11
Placer (LT)	2020	T6 OOS small	Aggregate	10	Diesel	2112.234538	0.054637123	0.332013855	0.011%	0.00%	0.001053672	2.2256E-06	2.2256E-06	5.75696E-11	3.49834E-10
Placer (LT)	2020	T6 OOS small	Aggregate	15	Diesel	1690.687145	0.02867304	0.265752475	7.441%	0.00%	0.689402247	0.001165564	0.001165564	1.97673E-08	1.8321E-07
Placer (LT)	2020	T6 OOS small	Aggregate	20	Diesel	1437.55567	0.014325666	0.225963732	0.207%	0.00%	0.019160566	2.75444E-05	2.75444E-05	2.74488E-10	4.32959E-09
Placer (LT)	2020	T6 OOS small	Aggregate	25	Diesel	1267.685805	0.010780275	0.199262555	9.881%	0.00%	0.915476252	0.001160536	0.001160536	9.86909E-09	1.8242E-07
Placer (LT)	2020	T6 OOS small	Aggregate	30	Diesel	1136.943895	0.008909955	0.178711747	3.122%	0.00%	0.289282083	0.000328897	0.000328897	2.57749E-09	5.16981E-08
Placer (LT)	2020	T6 OOS small	Aggregate	35	Diesel	1035.445812	0.007417845	0.162757662	29.790%	0.00%	2.760024081	0.002857855	0.002857855	2.04734E-08	4.49215E-07
Placer (LT)	2020	T6 OOS small	Aggregate	40	Diesel	962.350839	0.006274128	0.15126815	12.632%	0.00%	1.170322504	0.001126261	0.001126261	7.34275E-09	1.77033E-07
Placer (LT)	2020	T6 OOS small	Aggregate	45	Diesel	917.1661134	0.005456278	0.144165741	18.146%	0.00%	1.68126148	0.001541996	0.001541996	9.17343E-09	2.4238E-07
Placer (LT)	2020	T6 OOS small	Aggregate	50	Diesel	899.5806726	0.004947	0.141401554	10.003%	0.00%	0.926829861	0.000833758	0.000833758	4.58503E-09	1.31055E-07
Placer (LT)	2020	T6 OOS small	Aggregate	55	Diesel	909.38743	0.004732709	0.14294304	8.765%	0.00%	0.812092624	0.000738507	0.000738507	3.8434E-09	1.16083E-07
Placer (LT)	2020	T6 OOS small	Aggregate	60	Diesel	947.7545688	0.004757995	0.14897382	0.000%	0.00%	0	0	0	0	0

Placer (LT)	2020	T6 OOS small	Aggregate	65	Diesel	1012.294163	0.004816142	0.159118545	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	70	Diesel	1012.294163	0.004850453	0.159118545	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	75	Diesel	1012.294163	0.004893221	0.159118545	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 OOS small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	5	Diesel	2487.808583	0.025503511	0.391048865	0.002%	0.05%	0.004296651	1.06892E-05	1.06892E-05	1.0958E-10	1.6802E-09
Placer (LT)	2020	T6 Public	Aggregate	10	Diesel	2189.195775	0.020005954	0.344111089	0.011%	0.05%	0.02744001	6.00716E-05	6.00716E-05	5.48964E-10	9.44241E-09
Placer (LT)	2020	T6 Public	Aggregate	15	Diesel	1790.040312	0.011973596	0.281369409	7.441%	0.05%	17.95359049	0.032137651	0.032137651	2.14969E-07	5.05159E-06
Placer (LT)	2020	T6 Public	Aggregate	20	Diesel	1511.636602	0.006869105	0.237608223	0.207%	0.05%	0.498984381	0.000754283	0.000754283	3.42758E-09	1.18563E-07
Placer (LT)	2020	T6 Public	Aggregate	25	Diesel	1350.280054	0.005039209	0.212245221	9.881%	0.05%	23.84106782	0.032192118	0.032192118	1.2014E-07	5.06015E-06
Placer (LT)	2020	T6 Public	Aggregate	30	Diesel	1242.024569	0.004051093	0.195228966	3.122%	0.05%	7.533558353	0.009356865	0.009356865	3.05191E-08	1.47077E-06
Placer (LT)	2020	T6 Public	Aggregate	35	Diesel	1156.213171	0.003291115	0.181740609	29.790%	0.05%	71.87725642	0.083105431	0.083105431	2.36556E-07	1.3063E-05
Placer (LT)	2020	T6 Public	Aggregate	40	Diesel	1090.990557	0.002719438	0.171488523	12.632%	0.05%	30.4778394	0.033251035	0.033251035	8.28826E-08	5.2266E-06
Placer (LT)	2020	T6 Public	Aggregate	45	Diesel	1045.269089	0.002306705	0.164301745	18.146%	0.05%	43.78384353	0.045765898	0.045765898	1.00996E-07	7.19376E-06
Placer (LT)	2020	T6 Public	Aggregate	50	Diesel	1018.361754	0.002031283	0.160072286	10.003%	0.05%	24.13674143	0.024579934	0.024579934	4.90286E-08	3.86362E-06
Placer (LT)	2020	T6 Public	Aggregate	55	Diesel	1009.809586	0.001877231	0.158728004	8.765%	0.05%	21.1487248	0.021356185	0.021356185	3.9701E-08	3.35689E-06
Placer (LT)	2020	T6 Public	Aggregate	60	Diesel	1022.160708	0.001847784	0.160669429	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	65	Diesel	1049.484567	0.00186334	0.164964359	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	70	Diesel	1049.484567	0.001873586	0.164964359	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	75	Diesel	1049.484567	0.001886357	0.164964359	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	5	Diesel	2485.647044	0.008873823	0.390709101	0.002%	0.01%	0.000695352	1.7284E-06	1.7284E-06	6.17043E-12	2.7168E-10
Placer (LT)	2020	T6 utility	Aggregate	10	Diesel	2100.725208	0.006630612	0.330204748	0.011%	0.01%	0.004440776	9.32885E-06	9.32885E-06	2.94451E-11	1.46637E-09
Placer (LT)	2020	T6 utility	Aggregate	15	Diesel	1681.551562	0.004071085	0.264316489	7.441%	0.01%	2.905533407	0.004885804	0.004885804	1.18287E-08	7.6798E-07
Placer (LT)	2020	T6 utility	Aggregate	20	Diesel	1437.477321	0.002651499	0.225951417	0.207%	0.01%	0.080753529	0.000116081	0.000116081	2.14118E-10	1.82464E-08
Placer (LT)	2020	T6 utility	Aggregate	25	Diesel	1267.344027	0.00198269	0.199208832	9.881%	0.01%	3.858337922	0.004889842	0.004889842	7.64989E-09	7.68615E-07
Placer (LT)	2020	T6 utility	Aggregate	30	Diesel	1133.267847	0.001530491	0.178133924	3.122%	0.01%	1.219199329	0.001381679	0.001381679	1.86597E-09	2.17181E-07
Placer (LT)	2020	T6 utility	Aggregate	35	Diesel	1029.590568	0.001191691	0.161837299	29.790%	0.01%	11.6323122	0.011976519	0.011976519	1.38621E-08	1.88254E-06
Placer (LT)	2020	T6 utility	Aggregate	40	Diesel	955.0918747	0.000944246	0.150127142	12.632%	0.01%	4.932405059	0.0047109	0.0047109	4.6574E-09	7.40488E-07
Placer (LT)	2020	T6 utility	Aggregate	45	Diesel	909.0563778	0.000771903	0.142891003	18.146%	0.01%	7.08579268	0.006441385	0.006441385	5.46955E-09	1.0125E-06
Placer (LT)	2020	T6 utility	Aggregate	50	Diesel	891.032277	0.000662675	0.140057866	10.003%	0.01%	3.906188492	0.00348054	0.00348054	2.58853E-09	5.47092E-07
Placer (LT)	2020	T6 utility	Aggregate	55	Diesel	900.7178928	0.000607714	0.14158031	8.765%	0.01%	3.422620476	0.003082816	0.003082816	2.07998E-09	4.84576E-07
Placer (LT)	2020	T6 utility	Aggregate	60	Diesel	940.3203356	0.000621547	0.147805262	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	65	Diesel	1008.13595	0.000682569	0.158464932	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	70	Diesel	1008.13595	0.000714026	0.158464932	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2020	T6TS	Aggregate	5	Gasoline	4196.403989	0.371184404	0.156547968	0.002%	0.27%	0.021996072	9.23044E-05	9.23044E-05	8.1646E-09	3.44344E-09
Placer (LT)	2020	T6TS	Aggregate	10	Gasoline	3405.874008	0.236942059	0.136578356	0.011%	0.27%	0.140475079	0.00047844	0.00047844	3.32845E-08	1.91859E-08
Placer (LT)	2020	T6TS	Aggregate	15	Gasoline	2785.786862	0.160578817	0.120251198	7.441%	0.27%	91.91075571	0.256043776	0.256043776	1.47589E-05	1.10524E-05
Placer (LT)	2020	T6TS	Aggregate	20	Gasoline	2316.27262	0.114055663	0.108404676	0.207%	0.27%	2.554476864	0.005916865	0.005916865	2.91353E-07	2.76917E-07
Placer (LT)	2020	T6TS	Aggregate	25	Gasoline	1980.347571	0.085413195	0.099294602	9.881%	0.27%	122.0508267	0.241703058	0.241703058	1.04248E-05	1.2119E-05
Placer (LT)	2020	T6TS	Aggregate	30	Gasoline	1757.413211	0.067406167	0.092480097	3.122%	0.27%	38.56693968	0.067778049	0.067778049	2.59965E-06	3.56667E-06
Placer (LT)	2020	T6TS	Aggregate	35	Gasoline	1628.826055	0.055901115	0.087778988	29.790%	0.27%	367.9650018	0.599350982	0.599350982	2.05697E-05	3.22996E-05
Placer (LT)	2020	T6TS	Aggregate	40	Gasoline	1576.114433	0.048856211	0.084667251	12.632%	0.27%	156.0267988	0.24591609	0.24591609	7.62288E-06	1.32104E-05
Placer (LT)	2020	T6TS	Aggregate	45	Gasoline	1580.892567	0.045288342	0.082197337	18.146%	0.27%	224.1449224	0.354349042	0.354349042	1.01512E-05	1.84241E-05
Placer (LT)	2020	T6TS	Aggregate	50	Gasoline	1626.351226	0.0437532	0.082139963	10.003%	0.27%	123.564484	0.20095925	0.20095925	5.40634E-06	1.01496E-05
Placer (LT)	2020	T6TS	Aggregate	55	Gasoline	1692.370791	0.044409954	0.08355439	8.765%	0.27%	108.2677741	0.183229219	0.183229219	4.80817E-06	9.04625E-06
Placer (LT)	2020	T6TS	Aggregate	60	Gasoline	1760.717262	0.047772382	0.085527894	0.000%	0.27%	0	0	0	0	0
Placer (LT)	2020	T6TS	Aggregate	65	Gasoline	1815.146543	0.055118932	0.087133922	0.000%	0.27%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	5	Diesel	3636.196935	0.05227786	0.571559521	0.002%	0.33%	0.026878169	9.77343E-05	9.77343E-05	1.40513E-09	1.53625E-08
Placer (LT)	2020	T7 CAIRP	Aggregate	10	Diesel	3051.304792	0.039240663	0.479622621	0.011%	0.33%	0.171653963	0.000523769	0.000523769	6.73582E-09	8.23291E-08
Placer (LT)	2020	T7 CAIRP	Aggregate	15	Diesel	2430.596869	0.022231216	0.38205598	7.441%	0.33%	112.310636	0.27298188	0.27298188	2.4968E-06	4.2909E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	20	Diesel	2079.092259	0.012719029	0.32680435	0.207%	0.33%	3.121451011	0.006489785	0.006489785	3.97018E-08	1.0201E-06
Placer (LT)	2020	T7 CAIRP	Aggregate	25	Diesel	1827.679812	0.009426074	0.287285815	9.881%	0.33%	149.1403902	0.27258088	0.27258088	1.40581E-06	4.28459E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	30	Diesel	1616.027671	0.007408949	0.254017045	3.122%	0.33%	47.12699283	0.076158524	0.076158524	3.49161E-07	1.19711E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	35	Diesel	1452.494213	0.005877318	0.228311863	29.790%	0.33%	449.6359873	0.653093669	0.653093669	2.64265E-06	0.000102657
Placer (LT)	2020	T7 CAIRP	Aggregate	40	Diesel	1334.909697	0.004760211	0.209829215	12.632%	0.33%	190.6574359	0.25451046	0.25451046	9.0757E-07	4.00055E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	45	Diesel	1261.690181	0.004003894	0.198320126	18.146%	0.33%	273.8945905	0.345570115	0.345570115	1.09664E-06	5.43188E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	50	Diesel	1231.558681	0.003566968	0.193583874	10.003%	0.33%	150.9900086	0.185953056	0.185953056	5.38577E-07	2.92292E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	55	Diesel	1250.900492	0.003416755	0.196624137	8.765%	0.33%	132.2981459	0.165491816	0.165491816	4.5203E-07	2.6013E-05
Placer (LT)	2020	T7 CAIRP	Aggregate	60	Diesel	1314.602544	0.003526449	0.206637213	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	65	Diesel	1421.20546	0.00373058	0.223393707	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	70	Diesel	1421.20546	0.003833005	0.223393707	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	75	Diesel	1421.20546	0.003960673	0.223393707	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	80	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	85	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP	Aggregate	90	Diesel	0	0	0	0.000%	0.33%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	5	Diesel	3679.703713	0.052507447	0.578398181	0.002%	0.05%	0.003698968	1.36111E-05	1.36111E-05	1.94223E-10	2.13948E-09
Placer (LT)	2020	T7 CAIRP construction	Aggregate	10	Diesel	3088.066281	0.039420215	0.485401016	0.011%	0.05%	0.023622981	7.29493E-05	7.29493E-05	9.31223E-10	1.14666E-08
Placer (LT)	2020	T7 CAIRP construction	Aggregate	15	Diesel	2460.003914	0.022311033	0.386678358	7.441%	0.05%	15.45616517	0.038022227	0.038022227	3.44843E-07	5.97656E-06

Placer (LT)	2020	T7 CAIRP construction	Aggregate	20	Diesel	2104.208537	0.012743674	0.330752279	0.207%	0.05%	0.429573405	0.000903912	0.000903912	5.47434E-09	1.42082E-07
Placer (LT)	2020	T7 CAIRP construction	Aggregate	25	Diesel	1849.815977	0.009443242	0.290765311	9.881%	0.05%	20.52466788	0.037966859	0.037966859	1.93819E-07	5.96786E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	30	Diesel	1645.26861	0.007423059	0.258613314	3.122%	0.05%	6.485606445	0.010670565	0.010670565	4.8143E-08	1.67726E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	35	Diesel	1487.540845	0.005888808	0.233820706	29.790%	0.05%	61.87880622	0.092047252	0.092047252	3.64392E-07	1.44685E-05
Placer (LT)	2020	T7 CAIRP construction	Aggregate	40	Diesel	1375.237916	0.004769647	0.216168249	12.632%	0.05%	26.23823463	0.036083815	0.036083815	1.25147E-07	5.67187E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	45	Diesel	1307.542143	0.004011892	0.205527416	18.146%	0.05%	37.69331364	0.049285596	0.049285596	1.51221E-07	7.74701E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	50	Diesel	1283.93802	0.003574123	0.201817177	10.003%	0.05%	20.77921195	0.02667922	0.02667922	7.42675E-08	4.1936E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	55	Diesel	1304.082967	0.00342358	0.204983682	8.765%	0.05%	18.2068419	0.023743232	0.023743232	6.23326E-08	3.73211E-06
Placer (LT)	2020	T7 CAIRP construction	Aggregate	60	Diesel	1370.452246	0.003532684	0.215416008	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	65	Diesel	1481.520284	0.003734558	0.232874357	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	70	Diesel	1481.520284	0.003837796	0.232874357	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	75	Diesel	1481.520284	0.003966479	0.232874357	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	80	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	85	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 CAIRP construction	Aggregate	90	Diesel	0	0	0	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	5	Diesel	3520.225611	0.054036448	0.553330444	0.002%	0.40%	0.032945418	0.000115975	0.000115975	1.78025E-09	1.82297E-08
Placer (LT)	2020	T7 NNOOS	Aggregate	10	Diesel	2944.266521	0.040327043	0.462797696	0.011%	0.40%	0.21040167	0.000619479	0.000619479	8.48488E-09	9.73734E-08
Placer (LT)	2020	T7 NNOOS	Aggregate	15	Diesel	2334.667425	0.021533961	0.366977207	7.441%	0.40%	137.6626849	0.321396586	0.321396586	2.96442E-06	5.05191E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	20	Diesel	1990.181239	0.011219629	0.312828776	0.207%	0.40%	3.826060845	0.007614555	0.007614555	4.2927E-08	1.1969E-06
Placer (LT)	2020	T7 NNOOS	Aggregate	25	Diesel	1744.987809	0.008398612	0.274287783	9.881%	0.40%	182.8060749	0.318994372	0.318994372	1.53532E-06	5.01415E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	30	Diesel	1539.297065	0.006825419	0.241956063	3.122%	0.40%	57.76503984	0.088917556	0.088917556	3.94271E-07	1.39766E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	35	Diesel	1380.381304	0.005596593	0.216976718	29.790%	0.40%	551.1329953	0.760773683	0.760773683	3.08447E-06	0.000119583
Placer (LT)	2020	T7 NNOOS	Aggregate	40	Diesel	1266.987346	0.004681675	0.199152767	12.632%	0.40%	233.6948258	0.296088387	0.296088387	1.09408E-06	4.6541E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	45	Diesel	1198.096578	0.004056895	0.188324098	18.146%	0.40%	335.7212286	0.402226455	0.402226455	1.36199E-06	6.32244E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	50	Diesel	1172.813747	0.003703077	0.184349989	10.003%	0.40%	185.0732104	0.217056405	0.217056405	6.8534E-07	3.41182E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	55	Diesel	1196.747577	0.003604091	0.188112053	8.765%	0.40%	162.1620055	0.194066987	0.194066987	5.84447E-07	3.05046E-05
Placer (LT)	2020	T7 NNOOS	Aggregate	60	Diesel	1264.180801	0.003712468	0.198711617	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	65	Diesel	1373.755462	0.003868126	0.215935228	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	70	Diesel	1373.755462	0.003991661	0.215935228	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	75	Diesel	1373.755462	0.004145641	0.215935228	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NNOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	5	Diesel	3639.439935	0.052170901	0.572069276	0.002%	0.13%	0.010480243	3.81422E-05	3.81422E-05	5.46764E-10	5.99543E-09
Placer (LT)	2020	T7 NOOS	Aggregate	10	Diesel	3053.918029	0.039137287	0.480033386	0.011%	0.13%	0.066930723	0.000204401	0.000204401	2.61949E-09	3.2129E-08
Placer (LT)	2020	T7 NOOS	Aggregate	15	Diesel	2432.841136	0.022189723	0.382408747	7.441%	0.13%	43.79177716	0.106538437	0.106538437	9.71727E-07	1.67464E-05
Placer (LT)	2020	T7 NOOS	Aggregate	20	Diesel	2081.339647	0.012738157	0.327157608	0.207%	0.13%	1.217105449	0.00253321	0.00253321	1.55037E-08	3.98185E-07
Placer (LT)	2020	T7 NOOS	Aggregate	25	Diesel	1829.715304	0.009451959	0.287605766	9.881%	0.13%	58.15230831	0.106402168	0.106402168	5.49653E-07	1.67249E-05
Placer (LT)	2020	T7 NOOS	Aggregate	30	Diesel	1617.780538	0.007429619	0.254292572	3.122%	0.13%	18.37559506	0.02972768	0.02972768	1.36524E-07	4.67278E-06
Placer (LT)	2020	T7 NOOS	Aggregate	35	Diesel	1454.03679	0.005893855	0.228554335	29.790%	0.13%	175.3205186	0.254922484	0.254922484	1.03331E-06	4.00703E-05
Placer (LT)	2020	T7 NOOS	Aggregate	40	Diesel	1336.290978	0.004772482	0.210046333	12.632%	0.13%	74.34049206	0.099340529	0.099340529	3.54789E-07	1.56149E-05
Placer (LT)	2020	T7 NOOS	Aggregate	45	Diesel	1262.944866	0.004011124	0.198517345	18.146%	0.13%	106.7960373	0.134877507	0.134877507	4.28372E-07	2.12009E-05
Placer (LT)	2020	T7 NOOS	Aggregate	50	Diesel	1232.711736	0.003568226	0.193765118	10.003%	0.13%	58.87350515	0.072574061	0.072574061	2.10074E-07	1.14076E-05
Placer (LT)	2020	T7 NOOS	Aggregate	55	Diesel	1251.986311	0.00341138	0.196794813	8.765%	0.13%	51.58523831	0.064584012	0.064584012	1.75977E-07	1.01517E-05
Placer (LT)	2020	T7 NOOS	Aggregate	60	Diesel	1315.709951	0.003516748	0.206811282	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	65	Diesel	1422.42399	0.003722454	0.223585243	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	70	Diesel	1422.42399	0.00382405	0.223585243	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	75	Diesel	1422.42399	0.003950686	0.223585243	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 NOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.13%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	5	Diesel	3684.81463	0.03794299	0.579201546	0.002%	0.12%	0.009601514	3.53798E-05	3.53798E-05	3.6431E-10	5.56121E-09
Placer (LT)	2020	T7 Public	Aggregate	10	Diesel	3261.47694	0.029170567	0.512658756	0.011%	0.12%	0.061318833	0.00019999	0.00019999	1.78871E-09	3.14356E-08
Placer (LT)	2020	T7 Public	Aggregate	15	Diesel	2652.805247	0.015924056	0.416984042	7.441%	0.12%	40.12000099	0.106430549	0.106430549	6.38873E-07	1.67294E-05
Placer (LT)	2020	T7 Public	Aggregate	20	Diesel	2204.233695	0.007879452	0.346474841	0.207%	0.12%	1.115055725	0.002457843	0.002457843	8.78603E-09	3.86339E-07
Placer (LT)	2020	T7 Public	Aggregate	25	Diesel	1964.782002	0.005657897	0.30883637	9.881%	0.12%	53.2764555	0.104676621	0.104676621	3.01433E-07	1.64537E-05
Placer (LT)	2020	T7 Public	Aggregate	30	Diesel	1815.185238	0.004591583	0.285321842	3.122%	0.12%	16.83487037	0.030558408	0.030558408	7.72987E-08	4.80336E-06
Placer (LT)	2020	T7 Public	Aggregate	35	Diesel	1695.43654	0.003766757	0.266499014	29.790%	0.12%	160.6205511	0.272321951	0.272321951	6.05019E-07	4.28052E-05
Placer (LT)	2020	T7 Public	Aggregate	40	Diesel	1604.781913	0.003170649	0.252249369	12.632%	0.12%	68.1073208	0.109297397	0.109297397	2.15944E-07	1.718E-05
Placer (LT)	2020	T7 Public	Aggregate	45	Diesel	1542.778858	0.002791787	0.242503352	18.146%	0.12%	97.84159035	0.150947937	0.150947937	2.73153E-07	2.37269E-05
Placer (LT)	2020	T7 Public	Aggregate	50	Diesel	1509.167372	0.002619125	0.237220094	10.003%	0.12%	53.93718269	0.081400236	0.081400236	1.41268E-07	1.2795E-05
Placer (LT)	2020	T7 Public	Aggregate	55	Diesel	1503.809273	0.002641404	0.236377876	8.765%	0.12%	47.26000967	0.071070041	0.071070041	1.24833E-07	1.11712E-05
Placer (LT)	2020	T7 Public	Aggregate	60	Diesel	1522.768746	0.002745682	0.239358041	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	65	Diesel	1556.905816	0.002775208	0.244723913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	70	Diesel	1556.905816	0.002814391	0.244723913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	75	Diesel	1556.905816	0.002863231	0.244723913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	5	Diesel	3786.305057	0.426689082	0.595154428	0.002%	0.02%	0.001940576	7.34761E-06	7.34761E-06	8.28022E-10	1.15494E-09
Placer (LT)	2020	T7 Single	Aggregate	10	Diesel	3393.874631	0.329810677	0.53346983	0.011%	0.02%	0.012393236	4.20611E-05	4.20611E-05	4.08742E-09	6.61142E-09
Placer (LT)	2020	T7 Single	Aggregate	15	Diesel	2767.859771	0.175995514	0.435069011	7.441%	0.02%	8.108709794	0.022443772	0.022443772	1.4271E-06	3.52785E-06
Placer (LT)	2020	T7 Single	Aggregate	20	Diesel	2273.36592	0.082612759	0.357341464	0.207%	0.02%	0.22536548	0.000512338	0.000512338	1.86181E-08	8.05324E-08
Placer (LT)	2020	T7 Single	Aggregate	25	Diesel	2031.270356	0.058942979	0.319287413	9.881%	0.02%	10.76777931	0.021872271	0.021872271	6.34685E-07	3.43802E-06
Placer (LT)	2020	T7 Single	Aggregate	30	Diesel	1895.903233	0.048138673	0.298009586	3.122%	0.02%	3.402519315	0.006450847	0.006450847	1.63793E-07	1.01398E-06
Placer (LT)	2020	T7 Single	Aggregate	35	Diesel	1786.867994	0.039650007	0.280870765	29.790%	0.02%	32.46324536	0.058007534	0.058007534	1.28717E-06	9.11798E-06

Placer (LT)	2020	T7 Single	Aggregate	40	Diesel	1703.438098	0.033456447	0.267756747	12.632%	0.02%	13.76526634	0.023448279	0.023448279	4.60537E-07	3.68574E-06
Placer (LT)	2020	T7 Single	Aggregate	45	Diesel	1645.185794	0.02946454	0.258600296	18.146%	0.02%	19.77490135	0.032533387	0.032533387	5.82658E-07	5.1138E-06
Placer (LT)	2020	T7 Single	Aggregate	50	Diesel	1611.915331	0.027507032	0.253370643	10.003%	0.02%	10.90131981	0.017572005	0.017572005	2.99863E-07	2.76207E-06
Placer (LT)	2020	T7 Single	Aggregate	55	Diesel	1603.63154	0.027342207	0.252068546	8.765%	0.02%	9.551786984	0.015317547	0.015317547	2.61167E-07	2.40771E-06
Placer (LT)	2020	T7 Single	Aggregate	60	Diesel	1607.646678	0.028317306	0.25269967	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	65	Diesel	1617.293737	0.028325921	0.254216053	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	70	Diesel	1617.293737	0.028325936	0.254216053	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	75	Diesel	1617.293737	0.028325954	0.254216053	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	80	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	85	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 Single	Aggregate	90	Diesel	0	0	0	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	5	Diesel	3684.589423	0.167903755	0.579166146	0.002%	0.11%	0.009176459	3.38115E-05	3.38115E-05	1.54076E-09	5.31469E-09
Placer (LT)	2020	T7 single construction	Aggregate	10	Diesel	3174.666799	0.12813893	0.499013411	0.011%	0.11%	0.05860427	0.000186049	0.000186049	7.50949E-09	2.92443E-08
Placer (LT)	2020	T7 single construction	Aggregate	15	Diesel	2558.961041	0.068173347	0.40223304	7.441%	0.11%	38.34390292	0.098120554	0.098120554	2.61403E-06	1.54232E-05
Placer (LT)	2020	T7 single construction	Aggregate	20	Diesel	2161.787032	0.033043716	0.339802817	0.207%	0.11%	1.065692607	0.0023038	0.0023038	3.52144E-08	3.62125E-07
Placer (LT)	2020	T7 single construction	Aggregate	25	Diesel	1914.937631	0.023821429	0.301001529	9.881%	0.11%	50.9179259	0.097504652	0.097504652	1.21294E-06	1.53264E-05
Placer (LT)	2020	T7 single construction	Aggregate	30	Diesel	1736.542349	0.019201308	0.272960274	3.122%	0.11%	16.08959669	0.027940266	0.027940266	3.08941E-07	4.39182E-06
Placer (LT)	2020	T7 single construction	Aggregate	35	Diesel	1596.996176	0.015625244	0.251025559	29.790%	0.11%	153.5099368	0.245154782	0.245154782	2.39863E-06	3.85349E-05
Placer (LT)	2020	T7 single construction	Aggregate	40	Diesel	1494.842517	0.013041882	0.234968427	12.632%	0.11%	65.0922341	0.097302639	0.097302639	8.48925E-07	1.52946E-05
Placer (LT)	2020	T7 single construction	Aggregate	45	Diesel	1429.227207	0.011401236	0.224654614	18.146%	0.11%	93.51017819	0.133647291	0.133647291	1.06613E-06	2.10075E-05
Placer (LT)	2020	T7 single construction	Aggregate	50	Diesel	1399.621265	0.010651225	0.220000972	10.003%	0.11%	51.54940293	0.072149641	0.072149641	5.49064E-07	1.13409E-05
Placer (LT)	2020	T7 single construction	Aggregate	55	Diesel	1405.690537	0.010735109	0.220954977	8.765%	0.11%	45.16782597	0.063491986	0.063491986	4.84882E-07	9.98006E-06
Placer (LT)	2020	T7 single construction	Aggregate	60	Diesel	1447.5678	0.011177722	0.2275375	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	65	Diesel	1520.276449	0.011266114	0.238966287	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	70	Diesel	1520.276449	0.011323918	0.238966287	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	75	Diesel	1520.276449	0.011395969	0.238966287	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	80	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	85	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 single construction	Aggregate	90	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	5	Diesel	3751.544095	0.232050734	0.589690488	0.002%	0.00%	0.000368536	1.38258E-06	1.38258E-06	8.5519E-11	2.17322E-10
Placer (LT)	2020	T7 tractor	Aggregate	10	Diesel	3231.588561	0.17727146	0.507960719	0.011%	0.00%	0.002353607	7.60589E-06	7.60589E-06	4.17227E-10	1.19554E-09
Placer (LT)	2020	T7 tractor	Aggregate	15	Diesel	2607.795725	0.09488752	0.409909172	7.441%	0.00%	1.539930377	0.004015824	0.004015824	1.4612E-07	6.31232E-07
Placer (LT)	2020	T7 tractor	Aggregate	20	Diesel	2207.611962	0.046475433	0.347005858	0.207%	0.00%	0.042799306	9.44843E-05	9.44843E-05	1.98912E-09	1.48516E-08
Placer (LT)	2020	T7 tractor	Aggregate	25	Diesel	1956.658914	0.033328136	0.307559533	9.881%	0.00%	2.044916007	0.004001203	0.004001203	6.81532E-08	6.28933E-07
Placer (LT)	2020	T7 tractor	Aggregate	30	Diesel	1763.96138	0.026573033	0.277270164	3.122%	0.00%	0.646174667	0.001139827	0.001139827	1.71708E-08	1.79165E-07
Placer (LT)	2020	T7 tractor	Aggregate	35	Diesel	1612.910506	0.021388211	0.25352707	29.790%	0.00%	6.165116146	0.009943781	0.009943781	1.31861E-07	1.56302E-06
Placer (LT)	2020	T7 tractor	Aggregate	40	Diesel	1500.917638	0.0176785	0.235923351	12.632%	0.00%	2.614170729	0.003923655	0.003923655	4.62146E-08	6.16744E-07
Placer (LT)	2020	T7 tractor	Aggregate	45	Diesel	1426.197658	0.015353308	0.224178411	18.146%	0.00%	3.755464442	0.005356035	0.005356035	5.76588E-08	8.41894E-07
Placer (LT)	2020	T7 tractor	Aggregate	50	Diesel	1387.399064	0.014320176	0.218079812	10.003%	0.00%	2.070276771	0.0028723	0.0028723	2.96467E-08	4.51486E-07
Placer (LT)	2020	T7 tractor	Aggregate	55	Diesel	1391.915129	0.014480025	0.218789675	8.765%	0.00%	1.81398611	0.002524915	0.002524915	2.62666E-08	3.96881E-07
Placer (LT)	2020	T7 tractor	Aggregate	60	Diesel	1431.7363	0.015154501	0.225049008	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	65	Diesel	1502.490159	0.015302835	0.23617053	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	70	Diesel	1502.490159	0.015340033	0.23617053	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	75	Diesel	1502.490159	0.015386399	0.23617053	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	5	Diesel	3731.015836	0.167873249	0.586463732	0.002%	0.09%	0.00756977	2.82429E-05	2.82429E-05	1.27076E-09	4.4394E-09
Placer (LT)	2020	T7 tractor construction	Aggregate	10	Diesel	3191.741363	0.127611119	0.501697295	0.011%	0.09%	0.048343364	0.0001543	0.0001543	6.16915E-09	2.42537E-08
Placer (LT)	2020	T7 tractor construction	Aggregate	15	Diesel	2571.250149	0.068624611	0.404164717	7.441%	0.09%	31.63034408	0.081329527	0.081329527	2.17062E-06	1.27839E-05
Placer (LT)	2020	T7 tractor construction	Aggregate	20	Diesel	2188.805802	0.034697749	0.344049791	0.207%	0.09%	0.879102577	0.001924185	0.001924185	3.05029E-08	3.02455E-07
Placer (LT)	2020	T7 tractor construction	Aggregate	25	Diesel	1937.471381	0.025117097	0.30454352	9.881%	0.09%	42.00280601	0.081379235	0.081379235	1.05499E-06	1.27917E-05
Placer (LT)	2020	T7 tractor construction	Aggregate	30	Diesel	1748.317652	0.019871128	0.274811188	3.122%	0.09%	13.27250073	0.023204547	0.023204547	2.6374E-07	3.64743E-06
Placer (LT)	2020	T7 tractor construction	Aggregate	35	Diesel	1601.27851	0.015860035	0.251698683	29.790%	0.09%	126.6321828	0.202773393	0.202773393	2.00839E-06	3.18732E-05
Placer (LT)	2020	T7 tractor construction	Aggregate	40	Diesel	1494.171579	0.012974473	0.234862965	12.632%	0.09%	53.69536236	0.080230084	0.080230084	6.96669E-07	1.26111E-05
Placer (LT)	2020	T7 tractor construction	Aggregate	45	Diesel	1425.717296	0.011122389	0.224102905	18.146%	0.09%	77.13766429	0.109976502	0.109976502	8.57955E-07	1.72868E-05
Placer (LT)	2020	T7 tractor construction	Aggregate	50	Diesel	1395.114794	0.010221536	0.219292617	10.003%	0.09%	42.52371897	0.059325469	0.059325469	4.34658E-07	9.32514E-06
Placer (LT)	2020	T7 tractor construction	Aggregate	55	Diesel	1401.842486	0.010193948	0.220350117	8.765%	0.09%	37.25947981	0.052231922	0.052231922	3.79821E-07	8.21013E-06
Placer (LT)	2020	T7 tractor construction	Aggregate	60	Diesel	1448.454552	0.010614876	0.227676885	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	65	Diesel	1531.226341	0.010777697	0.240687457	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	70	Diesel	1531.226341	0.010838501	0.240687457	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	75	Diesel	1531.226341	0.010914291	0.240687457	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	80	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	85	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 tractor construction	Aggregate	90	Diesel	0	0	0	0.000%	0.09%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	5	Diesel	3820.461273	0.021483512	0.600523309	0.002%	0.00%	0.000153085	5.84854E-07	5.84854E-07	3.2888E-12	9.1931E-11
Placer (LT)	2020	T7 utility	Aggregate	10	Diesel	3258.268213	0.016453122	0.512154389	0.011%	0.00%	0.000977656	3.18547E-06	3.18547E-06	1.60855E-11	5.00711E-10
Placer (LT)	2020	T7 utility	Aggregate	15	Diesel	2626.272103	0.010365855	0.412813402	7.441%	0.00%	0.639665804	0.001679936	0.001679936	6.63068E-09	2.64063E-07
Placer (LT)	2020	T7 utility	Aggregate	20	Diesel	2246.12002	0.006819189	0.353058788	0.207%	0.00%	0.01777824	3.99321E-05	3.99321E-05	1.21233E-10	6.27676E-09
Placer (LT)	2020	T7 utility	Aggregate	25	Diesel	1988.35429	0.00504172	0.312541605	9.881%	0.00%	0.849429858	0.001688968	0.001688968	4.28259E-09	2.65482E-07
Placer (LT)	2020	T7 utility	Aggregate	30	Diesel	1790.325594	0.003831007	0.281414252	3.122%	0.00%	0.26841203	0.000480545	0.000480545	1.02829E-09	7.5535E-08
Placer (LT)	2020	T7 utility	Aggregate	35	Diesel	1636.768619	0.00292943	0.257277234	29.790%	0.00%	2.560904074	0.004191607	0.004191607	7.50199E-09	6.58862E-07
Placer (LT)	2020	T7 utility	Aggregate	40	Diesel	1524.970752	0.002271111	0.239704166	12.632%	0.00%	1.085890405	0.001655951	0.001655951	2.46618E-09	2.60292E-07
Placer (LT)	2020	T7 utility	Aggregate	45	Diesel	1453.341722	0.001807296	0.22844508	18.146%	0.00%	1.559968046	0.002267167	0.002267167	2.81932E-09	3.56367E-07
Placer (LT)	2020	T7 utility	Aggregate	50	Diesel	1420.879121	0.001501793	0.223342411	10.003%	0.00%	0.859964369	0.001221905	0.001221905	1.29149E-09	1.92067E-07
Placer (LT)	2020	T7 utility	Aggregate	55	Diesel	1426.917107	0.001327617	0.224291498	8.765%	0.00%	0.753504769	0.001075189	0.001075189	1.00037E-09	1.69005E-07

Placer (LT)	2020	T7 utility	Aggregate	60	Diesel	1476.104917	0.001319095	0.232023137	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	65	Diesel	1564.930231	0.001410747	0.245985239	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	70	Diesel	1564.930231	0.001450056	0.245985239	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7IS	Aggregate	5	Gasoline	4582.37897	0.290884103	0.204119247	0.002%	0.00%	2.18772E-05	1.0025E-07	1.0025E-07	6.36374E-12	4.46556E-12
Placer (LT)	2020	T7IS	Aggregate	10	Gasoline	3724.446384	0.18426434	0.175661521	0.011%	0.00%	0.000139716	5.20365E-07	5.20365E-07	2.57447E-11	2.45427E-11
Placer (LT)	2020	T7IS	Aggregate	15	Gasoline	3049.910316	0.122446145	0.154939871	7.441%	0.00%	0.091414187	0.000278805	0.000278805	1.11933E-08	1.41637E-08
Placer (LT)	2020	T7IS	Aggregate	20	Gasoline	2538.378426	0.085356788	0.139950928	0.207%	0.00%	0.002540676	6.4492E-06	6.4492E-06	2.16864E-10	3.5557E-10
Placer (LT)	2020	T7IS	Aggregate	25	Gasoline	2172.056047	0.063163853	0.12720544	9.881%	0.00%	0.121391419	0.000263669	0.000263669	7.66755E-09	1.54416E-08
Placer (LT)	2020	T7IS	Aggregate	30	Gasoline	1928.49734	0.049344135	0.117451795	3.122%	0.00%	0.038358573	7.39744E-05	7.39744E-05	1.89277E-09	4.50528E-09
Placer (LT)	2020	T7IS	Aggregate	35	Gasoline	1787.50245	0.040620539	0.110387926	29.790%	0.00%	0.365976986	0.000654185	0.000654185	1.48662E-08	4.03994E-08
Placer (LT)	2020	T7IS	Aggregate	40	Gasoline	1728.951716	0.035212103	0.105675075	12.632%	0.00%	0.155183828	0.000268305	0.000268305	5.46435E-09	1.63991E-08
Placer (LT)	2020	T7IS	Aggregate	45	Gasoline	1732.698381	0.032058251	0.10349051	18.146%	0.00%	0.222933928	0.000386277	0.000386277	7.14687E-09	2.30715E-08
Placer (LT)	2020	T7IS	Aggregate	50	Gasoline	1780.913216	0.03093147	0.10224696	10.003%	0.00%	0.122896899	0.000218869	0.000218869	3.80138E-09	1.25658E-08
Placer (LT)	2020	T7IS	Aggregate	55	Gasoline	1851.511751	0.031645898	0.101931665	8.765%	0.00%	0.107682833	0.000199376	0.000199376	3.40772E-09	1.09763E-08
Placer (LT)	2020	T7IS	Aggregate	60	Gasoline	1924.006632	0.03368959	0.105240779	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2020	T7IS	Aggregate	65	Gasoline	1980.878196	0.038205491	0.108957124	0.000%	0.00%	0	0	0	0	0

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	Placer (LT)
Calendar Year	2018
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

SAFE Rule Adjustment Factors	
CO_2	1

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Daily Trips	75,255
Daily Vehicles	15,916

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 IDLEX	CO_2 STREX	CH_4 IDLEX	CH_4 STREX	N_2O IDLEX	N_2O STREX	Fleet Mix	Vehicle Trips per Day	Vehicles per Day	CO_2 STREX Emissions (tons/day)	CO_2 STREX Emissions Adjusted for SAFE Rule (tons/day)	CO_2 IDLEX Emissions (tons/day)	CO_2 IDLEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 STREX Emissions (tons/day)	CH_4 IDLEX Emissions (tons/day)	N_2O STREX Emissions (tons/day)	N_2O IDLEX Emissions (tons/day)
Placer (LT)	2020	All Other Buses	Aggregate	Aggregate	Diesel	685.9887709	0	0.012478238	0	0.107827882	0	0.09%	69.80737581	14.76429585	0	0	0.010128141	0.010128141	0	1.84232E-07	0	1.592E-06
Placer (LT)	2020	LDA	Aggregate	Aggregate	Gasoline	0	65.66659936	0	0.124219504	0	0.037548692	33.60%	25285.11862	5347.815579	1.660387754	1.660387754	0	0	0.003140905	0	0.000949423	0
Placer (LT)	2020	LDA	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.52%	389.5583857	82.39179872	0	0	0	0	0	0	0	0
Placer (LT)	2020	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.31%	236.9264926	50.1100749	0	0	0	0	0	0	0	0
Placer (LT)	2020	LDT1	Aggregate	Aggregate	Gasoline	0	77.83748898	0	0.184452506	0	0.044441774	6.15%	4631.25844	979.5135394	0.360485528	0.360485528	0	0	0.000854247	0	0.000205821	0
Placer (LT)	2020	LDT1	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.00%	0.075480551	0.015964175	0	0	0	0	0	0	0	0
Placer (LT)	2020	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.00%	1.206675624	0.255212514	0	0	0	0	0	0	0	0
Placer (LT)	2020	LDT2	Aggregate	Aggregate	Gasoline	0	86.01506514	0	0.147607492	0	0.049298585	27.07%	20373.737	4309.055843	1.752448315	1.752448315	0	0	0.003007316	0	0.001004396	0
Placer (LT)	2020	LDT2	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.24%	182.7144548	38.64420107	0	0	0	0	0	0	0	0
Placer (LT)	2020	LDT2	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.06%	45.9856498	9.725988559	0	0	0	0	0	0	0	0
Placer (LT)	2020	LHD1	Aggregate	Aggregate	Gasoline	124.6337544	21.12402547	0.118327945	0.041020434	0.002802035	0.041942339	3.14%	2364.219698	500.0336808	0.049941837	0.049941837	0.062321075	0.062321075	9.69813E-05	5.9168E-05	9.91609E-05	1.40111E-06
Placer (LT)	2020	LHD1	Aggregate	Aggregate	Diesel	142.096606	0	0.005098128	0	0.022335608	0	3.41%	2565.249318	542.5515487	0	0	0.077094734	0.077094734	0	2.766E-06	0	1.21182E-05
Placer (LT)	2020	LHD2	Aggregate	Aggregate	Gasoline	143.9774346	23.30048004	0.124782063	0.037533472	0.003010011	0.040923903	0.41%	306.1851748	64.75832179	0.007134262	0.007134262	0.009323737	0.009323737	1.14922E-05	8.08068E-06	1.25303E-05	1.94923E-07
Placer (LT)	2020	LHD2	Aggregate	Aggregate	Diesel	225.5531129	0	0.005098128	0	0.035453808	0	1.31%	982.4004949	207.7782094	0	0	0.046865022	0.046865022	0	1.05928E-06	0	7.36653E-06
Placer (LT)	2020	MCY	Aggregate	Aggregate	Gasoline	0	73.10615972	0	0.383206914	0	0.016764021	0.99%	748.0290853	158.2085359	0.054685534	0.054685534	0	0	0.00028665	0	1.254E-05	0
Placer (LT)	2020	MDV	Aggregate	Aggregate	Gasoline	0	105.3183152	0	0.187421042	0	0.057279327	18.65%	14031.82841	2967.738918	1.477808527	1.477808527	0	0	0.00262986	0	0.000803734	0
Placer (LT)	2020	MDV	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.70%	524.250892	110.879333	0	0	0	0	0	0	0	0
Placer (LT)	2020	MDV	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.00%	2.914513731	0.616421151	0	0	0	0	0	0	0	0
Placer (LT)	2020	MH	Aggregate	Aggregate	Gasoline	0	33.80994328	0	0.051204705	0	0.025018591	0.14%	106.4764169	22.51981689	0.003599962	0.003599962	0	0	5.45209E-06	0	2.66389E-06	0
Placer (LT)	2020	MH	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.05%	39.01107073	8.250861502	0	0	0	0	0	0	0	0
Placer (LT)	2020	Motor Coach	Aggregate	Aggregate	Diesel	11367.78056	0	0.331247043	0	1.786856799	0	0.13%	96.0785422	20.32066104	0	0	0.231000816	0.231000816	0	6.73116E-06	0	3.63101E-05
Placer (LT)	2020	OBUS	Aggregate	Aggregate	Gasoline	392.2353305	30.26613902	0.194128252	0.0410474	0.004903105	0.02821785	0.18%	138.1797893	29.22509643	0.004182169	0.004182169	0.011463115	0.011463115	5.67192E-06	5.67342E-06	3.89914E-06	1.43294E-07
Placer (LT)	2020	PTO	Aggregate	Aggregate	Diesel	0	0	0	0	0	0	0.00%	3.554567105	0.751792769	0	0	0	0	0	0	0	0
Placer (LT)	2020	SBUS	Aggregate	Aggregate	Gasoline	2634.490157	63.41916673	2.413449533	0.08661989	0.083217075	0.054371141	0.01%	4.771324782	1.009137643	0.000302593	0.000302593	0.002658563	0.002658563	4.13292E-07	2.4355E-06	2.59422E-07	8.39775E-08
Placer (LT)	2020	SBUS	Aggregate	Aggregate	Diesel	3765.33378	0	0.010758396	0	0.591858035	0	0.03%	24.3123289	5.142070053	0	0	0.01936161	0.01936161	0	5.53204E-08	0	3.04338E-06
Placer (LT)	2020	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	668.8775366	0	0.004152023	0	0.105138234	0	0.02%	18.74150542	3.963838025	0	0	0.002651322	0.002651322	0	1.64579E-08	0	4.16751E-07
Placer (LT)	2020	T6 CAIRP small	Aggregate	Aggregate	Diesel	679.0731751	0	0.005005974	0	0.106740846	0	0.00%	2.324879283	0.491713163	0	0	0.000333909	0.000333909	0	2.4615E-09	0	5.24859E-08
Placer (LT)	2020	T6 instate construction heavy	Aggregate	Aggregate	Diesel	674.8972111	0	0.01185341	0	0.106084443	0	0.06%	47.50382168	10.04708269	0	0	0.006780748	0.006780748	0	1.19092E-07	0	1.06584E-06
Placer (LT)	2020	T6 instate construction small	Aggregate	Aggregate	Diesel	685.73465	0	0.006723827	0	0.107787938	0	0.33%	248.3272622	52.52134354	0	0	0.036015705	0.036015705	0	3.53144E-07	0	5.66117E-06
Placer (LT)	2020	T6 instate heavy	Aggregate	Aggregate	Diesel	637.2728222	0	0.018603739	0	0.100170413	0	0.29%	214.5104078	45.36906146	0	0	0.02891247	0.02891247	0	8.44034E-07	0	4.54464E-06
Placer (LT)	2020	T6 instate small	Aggregate	Aggregate	Diesel	706.3204805	0	0.007988737	0	0.111023743	0	0.47%	354.6432352	75.00722645	0	0	0.05297914	0.05297914	0	5.99213E-07	0	8.32758E-06
Placer (LT)	2020	T6 OOS heavy	Aggregate	Aggregate	Diesel	671.264847	0	0.004111757	0	0.105513486	0	0.01%	10.99268897	2.324959365	0	0	0.001560663	0.001560663	0	9.55967E-09	0	2.45315E-07
Placer (LT)	2020	T6 OOS small	Aggregate	Aggregate	Diesel	679.8012619	0	0.00510727	0	0.106855292	0	0.00%	1.521985845	0.321900788	0	0	0.000218829	0.000218829	0	1.64403E-09	0	3.43968E-08
Placer (LT)	2020	T6 Public	Aggregate	Aggregate	Diesel	3602.713872	0	0.022458619	0	0.56629645	0	0.05%	39.63594649	8.383023048	0	0	0.030201633	0.030201633	0	1.88271E-07	0	4.74728E-06
Placer (LT)	2020	T6 utility	Aggregate	Aggregate	Diesel	1839.498451	0	0.006617818	0	0.28914354	0	0.01%	6.414514508	1.356673114	0	0	0.002495598	0.002495598	0	8.97822E-09	0	3.92273E-07
Placer (LT)	2020	T6TS	Aggregate	Aggregate	Gasoline	561.3727431	48.09432322	0.218263503	0.058089014	0.004784669	0.026494706	0.27%	202.910376	42.91564877	0.009758837	0.009758837	0.024091675	0.024091675	1.17869E-05	9.36692E-06	5.37605E-06	2.05337E-07
Placer (LT)	2020	T7 CAIRP	Aggregate	Aggregate	Diesel	25963.20495	0	0.505513998	0	4.08105426	0	0.33%	247.9469699	52.44091153	0	0	1.361534134	1.361534134	0	2.65096E-05	0	0.000214014
Placer (LT)	2020	T7 CAIRP construction	Aggregate	Aggregate	Diesel	3983.137878	0	0.07458077	0	0.626093806	0	0.05%	34.12240776	7.216906774	0	0	0.028745935	0.028745935	0	5.38242E-07	0	4.51846E-06
Placer (LT)	2020	T7 NNOOS	Aggregate	Aggregate	Diesel	29814.14285	0	0.651161058	0	4.68636807	0	0.40%	303.9164125	64.2784774	0	0	1.916407708	1.916407708	0	4.18556E-05	0	0.000301233
Placer (LT)	2020	T7 NOOS	Aggregate	Aggregate	Diesel	32349.09979	0	0.630529388	0	5.084827999	0	0.13%	96.67863024	20.44757997	0	0	0.661460805	0.661460805	0	1.28928E-05	0	0.000103972
Placer (LT)	2020	T7 Public	Aggregate	Aggregate	Diesel	3375.195498	0	0.048577129	0	0.53053373	0	0.12%	88.57248992	18.73312713	0	0	0.063227966	0.063227966	0	9.10002E-07	0	9.93856E-06
Placer (LT)	2020	T7 Single	Aggregate	Aggregate	Diesel	2038.439187	0	0.153771214	0	0.320414253	0	0.02%	17.90151044	3.786178655	0	0	0.007717895	0.007717895	0	5.82205E-07	0	1.21315E-06
Placer (LT)	2020	T7 single construction	Aggregate	Aggregate	Diesel	3130.410187	0	0.093246696	0	0.492056888	0	0.11%	84.65141752	17.9038183	0	0	0.056046295	0.056046295	0	1.66947E-06	0	8.8097E-06
Placer (LT)	2020	T7 tractor	Aggregate	Aggregate	Diesel	3646.650203	0	0.092032974	0	0.573202629	0	0.00%	3.399687549	0.719035663	0	0	0.002622072	0.002622072	0	6.6175E-08	0	4.12153E-07
Placer (LT)	2020	T7 tractor construction	Aggregate	Aggregate	Diesel	3627.327125	0	0.083119279	0	0.570165311	0	0.09%	69.82996667	14.76907383	0	0	0.053572262	0.053572262	0	1.22759E-06	0	8.42081E-06
Placer (LT)	2020	T7 utility	Aggregate	Aggregate	Diesel	1806.986997	0	0.027521957	0	0.284033192	0	0.00%	1.41218324	0.298677481	0	0	0.000539706	0.000539706	0	8.22019E-09	0	8.48343E-08
Placer (LT)	2020	T7IS	Aggregate	Aggregate	Gasoline	0	58.99444232	0	0.004148802	0	0.004730427	0.00%	0.201814106	0.042683787	1.19059E-05	1.19059E-05	0	0	8.37287E-10	0	9.54667E-10	0

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Placer (LT)
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Fleet Mix (Population)	VMT	Fleet Mix (VMT)	Trips	Fleet Mix (Trips)
Placer (LT)	2018	All Other Buses	Aggregate	Aggregate	Diesel	9.770812088	0.08%	422.8425284	0.09%	82.07482154	0.12%
Placer (LT)	2018	LDA	Aggregate	Aggregate	Gasoline	4087.153298	31.62%	153158.9372	33.60%	18629.87425	27.51%
Placer (LT)	2018	LDA	Aggregate	Aggregate	Diesel	62.29583158	0.48%	2359.662584	0.52%	285.8207238	0.42%
Placer (LT)	2018	LDA	Aggregate	Aggregate	Electricity	35.87074424	0.28%	1435.129111	0.31%	181.8062951	0.27%
Placer (LT)	2018	LDT1	Aggregate	Aggregate	Gasoline	850.8867551	6.58%	28052.80969	6.15%	3687.505753	5.44%
Placer (LT)	2018	LDT1	Aggregate	Aggregate	Diesel	0.008834164	0.00%	0.457206514	0.00%	0.04558204	0.00%
Placer (LT)	2018	LDT1	Aggregate	Aggregate	Electricity	0.172495362	0.00%	7.309167061	0.00%	0.890032201	0.00%
Placer (LT)	2018	LDT2	Aggregate	Aggregate	Gasoline	3316.013642	25.66%	123409.3441	27.07%	15073.20079	22.26%
Placer (LT)	2018	LDT2	Aggregate	Aggregate	Diesel	24.09570671	0.19%	1106.751846	0.24%	118.9430759	0.18%
Placer (LT)	2018	LDT2	Aggregate	Aggregate	Electricity	7.499055778	0.06%	278.5477638	0.06%	38.32854263	0.06%
Placer (LT)	2018	LHD1	Aggregate	Aggregate	Gasoline	436.7688333	3.38%	14320.73077	3.14%	6507.204831	9.61%
Placer (LT)	2018	LHD1	Aggregate	Aggregate	Diesel	431.9619436	3.34%	15538.42262	3.41%	5433.537843	8.02%
Placer (LT)	2018	LHD2	Aggregate	Aggregate	Gasoline	53.90765302	0.42%	1854.648051	0.41%	803.1437075	1.19%
Placer (LT)	2018	LHD2	Aggregate	Aggregate	Diesel	149.2540667	1.15%	5950.670747	1.31%	1877.428397	2.77%
Placer (LT)	2018	MCY	Aggregate	Aggregate	Gasoline	522.3153416	4.04%	4531.018478	0.99%	1044.630683	1.54%
Placer (LT)	2018	MDV	Aggregate	Aggregate	Gasoline	2531.950137	19.59%	84994.65471	18.65%	11287.86675	16.67%
Placer (LT)	2018	MDV	Aggregate	Aggregate	Diesel	69.19953348	0.54%	3175.532243	0.70%	335.8013394	0.50%
Placer (LT)	2018	MDV	Aggregate	Aggregate	Electricity	0.461652871	0.00%	17.6540135	0.00%	2.381567183	0.00%
Placer (LT)	2018	MH	Aggregate	Aggregate	Gasoline	83.1827021	0.64%	644.9570239	0.14%	8.321597518	0.01%
Placer (LT)	2018	MH	Aggregate	Aggregate	Diesel	24.48689728	0.19%	236.3008148	0.05%	2.448689728	0.00%
Placer (LT)	2018	Motor Coach	Aggregate	Aggregate	Diesel	4.637604398	0.04%	581.9742289	0.13%	67.70902421	0.10%
Placer (LT)	2018	OBUS	Aggregate	Aggregate	Gasoline	13.26539741	0.10%	836.9930942	0.18%	265.4140713	0.39%
Placer (LT)	2018	PTO	Aggregate	Aggregate	Diesel	0	0.00%	21.53099331	0.00%	0	0.00%
Placer (LT)	2018	SBUS	Aggregate	Aggregate	Gasoline	0.566583934	0.00%	28.90123015	0.01%	2.266335738	0.00%
Placer (LT)	2018	SBUS	Aggregate	Aggregate	Diesel	4.600132627	0.04%	147.2664815	0.03%	53.08489273	0.08%
Placer (LT)	2018	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.580956528	0.00%	113.5224673	0.02%	8.481965303	0.01%
Placer (LT)	2018	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.270459246	0.00%	14.08243503	0.00%	3.948704996	0.01%
Placer (LT)	2018	T6 instate construction heavy	Aggregate	Aggregate	Diesel	4.33315208	0.03%	287.7437496	0.06%	19.59001208	0.03%
Placer (LT)	2018	T6 instate construction small	Aggregate	Aggregate	Diesel	30.28384127	0.23%	1504.186716	0.33%	136.912069	0.20%
Placer (LT)	2018	T6 instate heavy	Aggregate	Aggregate	Diesel	11.30359832	0.09%	1299.348703	0.29%	130.4419574	0.19%
Placer (LT)	2018	T6 instate small	Aggregate	Aggregate	Diesel	49.95376705	0.39%	2148.171887	0.47%	576.4595459	0.85%
Placer (LT)	2018	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.344875417	0.00%	66.58574891	0.01%	5.035181086	0.01%
Placer (LT)	2018	T6 OOS small	Aggregate	Aggregate	Diesel	0.178148604	0.00%	9.219088029	0.00%	2.600969611	0.00%
Placer (LT)	2018	T6 Public	Aggregate	Aggregate	Diesel	15.62375343	0.12%	240.0858596	0.05%	47.39205203	0.07%
Placer (LT)	2018	T6 utility	Aggregate	Aggregate	Diesel	2.3217941	0.02%	38.85448352	0.01%	26.70063215	0.04%
Placer (LT)	2018	T6TS	Aggregate	Aggregate	Gasoline	24.87263564	0.19%	1229.08411	0.27%	497.6516938	0.73%
Placer (LT)	2018	T7 CAIRP	Aggregate	Aggregate	Diesel	7.681012065	0.06%	1501.883181	0.33%	112.1427762	0.17%
Placer (LT)	2018	T7 CAIRP construction	Aggregate	Aggregate	Diesel	1.05333815	0.01%	206.6888349	0.05%	4.762100824	0.01%
Placer (LT)	2018	T7 NNOOS	Aggregate	Aggregate	Diesel	8.913937219	0.07%	1840.905532	0.40%	130.1434834	0.19%
Placer (LT)	2018	T7 NOOS	Aggregate	Aggregate	Diesel	2.997388054	0.02%	585.6091277	0.13%	43.76186558	0.06%
Placer (LT)	2018	T7 Public	Aggregate	Aggregate	Diesel	26.51829262	0.21%	536.508	0.12%	80.43882088	0.12%
Placer (LT)	2018	T7 Single	Aggregate	Aggregate	Diesel	2.225380658	0.02%	108.434386	0.02%	25.68058425	0.04%
Placer (LT)	2018	T7 single construction	Aggregate	Aggregate	Diesel	7.496167127	0.06%	512.756983	0.11%	33.88988013	0.05%
Placer (LT)	2018	T7 tractor	Aggregate	Aggregate	Diesel	0.170421021	0.00%	20.59284513	0.00%	2.164346965	0.00%
Placer (LT)	2018	T7 tractor construction	Aggregate	Aggregate	Diesel	6.042078342	0.05%	422.9793675	0.09%	27.31600127	0.04%
Placer (LT)	2018	T7 utility	Aggregate	Aggregate	Diesel	0.4212952	0.00%	8.553983369	0.00%	4.844894804	0.01%
Placer (LT)	2018	T7IS	Aggregate	Aggregate	Gasoline	0.003503211	0.00%	1.222443701	0.00%	0.070092247	0.00%
							0.00%	26.80509266	0.01%	15.18642836	0.02%
							0.00%	1.71178143	0.00%	0.139958231	0.00%

SCENARIO	Placer County (LT) 2045 - RUNEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	Placer (LT)
Calendar Year	2045
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Daily VMT	454,171

SAFE Rule Adjustment Factors	
CO_2	1.1243

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 RUNEX	CH_4 RUNEX	N_2O RUNEX	Percent Speed	Fleet Mix	Vehicle Activity per Day	CO_2 RUNEX Emissions (tons/day)	CO_2 RUNEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 RUNEX Emissions (tons/day)	N_2O RUNEX Emissions (tons/day)
Placer (LT)	2045	All Other Buses	Aggregate	5	Diesel	2580.580418	0.003443607	0.405631305	0.002%	0.01%	0.000690164	1.78102E-06	1.78102E-06	2.37665E-12	2.79952E-10
Placer (LT)	2045	All Other Buses	Aggregate	10	Diesel	2133.591276	0.002160895	0.335370837	0.004%	0.01%	0.00166467	3.55173E-06	3.55173E-06	3.59718E-12	5.58282E-10
Placer (LT)	2045	All Other Buses	Aggregate	15	Diesel	1678.957721	0.001201338	0.263908773	7.450%	0.01%	2.920970455	0.004904186	0.004904186	3.50907E-09	7.7087E-07
Placer (LT)	2045	All Other Buses	Aggregate	20	Diesel	1433.803504	0.000816059	0.225373944	0.276%	0.01%	0.108185987	0.000155117	0.000155117	8.82862E-11	2.43823E-08
Placer (LT)	2045	All Other Buses	Aggregate	25	Diesel	1251.257503	0.000640863	0.196680255	9.798%	0.01%	3.841317923	0.004806478	0.004806478	2.46176E-09	7.55511E-07
Placer (LT)	2045	All Other Buses	Aggregate	30	Diesel	1099.275929	0.00051833	0.172790868	3.091%	0.01%	1.211948405	0.001332266	0.001332266	6.2819E-10	2.09414E-07
Placer (LT)	2045	All Other Buses	Aggregate	35	Diesel	982.5289616	0.000426877	0.15443987	29.832%	0.01%	11.69592776	0.011491588	0.011491588	4.99273E-09	1.80632E-06
Placer (LT)	2045	All Other Buses	Aggregate	40	Diesel	901.0166017	0.000366504	0.141627262	12.574%	0.01%	4.92978911	0.004441822	0.004441822	1.80679E-09	6.98193E-07
Placer (LT)	2045	All Other Buses	Aggregate	45	Diesel	854.7388505	0.00033721	0.134353044	18.067%	0.01%	7.083427377	0.006054481	0.006054481	2.38861E-09	9.5168E-07
Placer (LT)	2045	All Other Buses	Aggregate	50	Diesel	843.6957067	0.000338997	0.132617216	10.102%	0.01%	3.960610484	0.00334155	0.00334155	1.34263E-09	5.25245E-07
Placer (LT)	2045	All Other Buses	Aggregate	55	Diesel	867.8871716	0.000371862	0.136419777	8.803%	0.01%	3.451386448	0.002995414	0.002995414	1.28344E-09	4.70837E-07
Placer (LT)	2045	All Other Buses	Aggregate	60	Diesel	927.3132452	0.000435808	0.145760729	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	65	Diesel	1021.973926	0.000530833	0.160640069	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	70	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	75	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	All Other Buses	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	LDA	Aggregate	10	Gasoline	369.1023148	0.002593941	0.005335654	0.004%	52.54%	10.13261004	0.00373997	0.004204848	2.62834E-08	5.40641E-08
Placer (LT)	2045	LDA	Aggregate	10	Diesel	326.0323207	0.002946578	0.051247741	0.004%	0.66%	0.12701812	4.1412E-05	4.1412E-05	3.74269E-10	6.50939E-09
Placer (LT)	2045	LDA	Aggregate	15	Gasoline	301.938657	0.001721796	0.004711095	7.450%	52.54%	17779.52809	5.368326835	6.03560986	3.06127E-05	8.3761E-05
Placer (LT)	2045	LDA	Aggregate	15	Diesel	268.160656	0.001447282	0.042151121	7.450%	0.66%	222.8766545	0.05976675	0.05976675	3.22565E-07	9.3945E-06
Placer (LT)	2045	LDA	Aggregate	20	Gasoline	251.0534492	0.0012057	0.004226689	0.276%	52.54%	658.5125824	0.165321855	0.185871362	7.93968E-07	2.78333E-06
Placer (LT)	2045	LDA	Aggregate	20	Diesel	219.9788088	0.00057233	0.034577605	0.276%	0.66%	8.254835592	0.001815889	0.001815889	4.72449E-09	2.85432E-07
Placer (LT)	2045	LDA	Aggregate	25	Gasoline	214.6364602	0.000890699	0.003853304	9.798%	52.54%	23381.55109	5.018533358	5.642337055	2.08259E-05	9.00962E-05
Placer (LT)	2045	LDA	Aggregate	25	Diesel	184.3954009	0.000347437	0.028984389	9.798%	0.66%	293.1012486	0.054046522	0.054046522	1.01834E-07	8.49536E-06
Placer (LT)	2045	LDA	Aggregate	30	Gasoline	190.4769119	0.000694154	0.003569523	3.091%	52.54%	7376.956063	1.40513981	1.579798689	5.12075E-06	2.63322E-05
Placer (LT)	2045	LDA	Aggregate	30	Diesel	159.7202527	0.000263689	0.025105799	3.091%	0.66%	92.47440534	0.014770035	0.014770035	2.43845E-08	2.32164E-06
Placer (LT)	2045	LDA	Aggregate	35	Gasoline	176.5654057	0.000570712	0.003359986	29.832%	52.54%	71191.43428	12.56994448	14.13238858	4.06298E-05	0.000239202
Placer (LT)	2045	LDA	Aggregate	35	Diesel	144.3838911	0.000210697	0.022695137	29.832%	0.66%	892.4257503	0.128851902	0.128851902	1.88032E-07	2.02537E-05
Placer (LT)	2045	LDA	Aggregate	40	Gasoline	170.8929023	0.000495008	0.00321376	12.574%	52.54%	30006.91904	5.127969484	5.765376091	1.48537E-05	9.6435E-05
Placer (LT)	2045	LDA	Aggregate	40	Diesel	135.1110136	0.000174711	0.02123757	12.574%	0.66%	376.1540628	0.050822557	0.050822557	6.57183E-08	7.9886E-06
Placer (LT)	2045	LDA	Aggregate	45	Gasoline	171.4506041	0.000452942	0.003123477	18.067%	52.54%	43115.80619	7.392231017	8.311085332	1.9529E-05	0.000134671
Placer (LT)	2045	LDA	Aggregate	45	Diesel	130.5068597	0.000149059	0.020513861	18.067%	0.66%	540.4815352	0.070536548	0.070536548	8.05636E-08	1.10874E-05
Placer (LT)	2045	LDT1	Aggregate	10	Gasoline	426.4053387	0.002705898	0.005520661	0.004%	5.72%	1.102322353	0.000470036	0.000528462	2.98277E-09	6.08555E-09
Placer (LT)	2045	LDT1	Aggregate	10	Diesel	609.5865587	0.009328525	0.095818518	0.004%	0.00%	0.000152277	9.28263E-08	9.28263E-08	1.42052E-12	1.4591E-11
Placer (LT)	2045	LDT1	Aggregate	15	Gasoline	348.8007533	0.001796111	0.004874446	7.450%	5.72%	1934.227329	0.674659949	0.758520181	3.47409E-06	9.42829E-06
Placer (LT)	2045	LDT1	Aggregate	15	Diesel	505.4477224	0.004554921	0.079449343	7.450%	0.00%	0.267198698	0.000135055	0.000135055	1.21707E-09	2.12288E-08
Placer (LT)	2045	LDT1	Aggregate	20	Gasoline	290.0066976	0.001257739	0.004373243	0.276%	5.72%	71.63930486	0.020775878	0.02335832	9.01035E-08	3.13296E-07
Placer (LT)	2045	LDT1	Aggregate	20	Diesel	415.2638924	0.001770835	0.065273701	0.276%	0.00%	0.009896422	4.10963E-06	4.10963E-06	1.75249E-11	6.45976E-10
Placer (LT)	2045	LDT1	Aggregate	25	Gasoline	247.9315231	0.000929142	0.003986912	9.798%	5.72%	2543.669037	0.630655739	0.709046247	2.36343E-06	1.01414E-05
Placer (LT)	2045	LDT1	Aggregate	25	Diesel	348.1838043	0.001062947	0.054729645	9.798%	0.00%	0.351388405	0.000122348	0.000122348	3.73507E-10	1.92314E-08
Placer (LT)	2045	LDT1	Aggregate	30	Gasoline	220.0205699	0.000724115	0.003693291	3.091%	5.72%	802.5359248	0.176574412	0.198522611	5.81128E-07	2.964E-06
Placer (LT)	2045	LDT1	Aggregate	30	Diesel	301.080455	0.000802908	0.047325655	3.091%	0.00%	0.110864194	3.3379E-05	3.3379E-05	8.90137E-11	5.24672E-09
Placer (LT)	2045	LDT1	Aggregate	35	Gasoline	203.9518383	0.000595344	0.00347649	29.832%	5.72%	7744.885974	1.579583732	1.77592599	4.61087E-06	2.6925E-05
Placer (LT)	2045	LDT1	Aggregate	35	Diesel	271.736682	0.000638417	0.042713222	29.832%	0.00%	1.069896707	0.00029073	0.00029073	6.8304E-10	4.56987E-08
Placer (LT)	2045	LDT1	Aggregate	40	Gasoline	197.403702	0.000516373	0.003325193	12.574%	5.72%	3264.44001	0.644412543	0.724513022	1.68567E-06	1.08549E-05
Placer (LT)	2045	LDT1	Aggregate	40	Diesel	253.6174235	0.000526256	0.039865127	12.574%	0.00%	0.450957397	0.000114371	0.000114371	2.37319E-10	1.79775E-08
Placer (LT)	2045	LDT1	Aggregate	45	Gasoline	198.0547844	0.000472491	0.00323178	18.067%	5.72%	4690.550289	0.928985926	1.044458877	2.21624E-06	1.51588E-05
Placer (LT)	2045	LDT1	Aggregate	45	Diesel	244.5302223	0.000445513	0.038436746	18.067%	0.00%	0.647963614	0.000158447	0.000158447	2.88676E-10	2.49056E-08
Placer (LT)	2045	LDT2	Aggregate	10	Gasoline	425.0625328	0.003531047	0.005298066	0.004%	18.09%	3.487562152	0.001482432	0.001666698	1.23147E-08	1.84773E-08
Placer (LT)	2045	LDT2	Aggregate	10	Diesel	432.7609754	0.009332549	0.068023999	0.004%	0.19%	0.036495558	1.57939E-05	1.57939E-05	3.40597E-10	2.48257E-09
Placer (LT)	2045	LDT2	Aggregate	15	Gasoline	347.715337	0.002343825	0.004677906	7.450%	18.09%	6119.569295	2.127868099	2.392362104	1.43432E-05	2.86268E-05
Placer (LT)	2045	LDT2	Aggregate	15	Diesel	358.8301714	0.004559051	0.056403106	7.450%	0.19%	64.03817008	0.022978828	0.022978828	2.91953E-07	3.61195E-06
Placer (LT)	2045	LDT2	Aggregate	20	Gasoline	289.1151905	0.001641279	0.004196913	0.276%	18.09%	226.6546873	0.065529313	0.073674607	3.72004E-07	9.5125E-07

Placer (LT)	2045	LDT2	Aggregate	20	Diesel	294.8063808	0.001774895	0.046339458	0.276%	0.19%	2.371825649	0.000699229	0.000699229	4.20974E-09	1.09909E-07
Placer (LT)	2045	LDT2	Aggregate	25	Gasoline	247.1769539	0.001212479	0.003826158	9.798%	18.09%	8047.740151	1.989215896	2.236475432	9.75772E-06	3.07919E-05
Placer (LT)	2045	LDT2	Aggregate	25	Diesel	247.1845231	0.001066372	0.038853965	9.798%	0.19%	84.21549422	0.020816767	0.020816767	8.98051E-08	3.27211E-06
Placer (LT)	2045	LDT2	Aggregate	30	Gasoline	219.3544746	0.000944929	0.003544377	3.091%	18.09%	2539.088416	0.556960405	0.626190584	2.39926E-06	8.99949E-06
Placer (LT)	2045	LDT2	Aggregate	30	Diesel	213.7446595	0.000805812	0.033597684	3.091%	0.19%	26.57026467	0.005679252	0.005679252	2.14106E-08	8.92699E-07
Placer (LT)	2045	LDT2	Aggregate	35	Gasoline	203.3336291	0.000776891	0.003336316	29.832%	18.09%	24503.51399	4.982388425	5.601699307	1.90366E-05	8.17515E-05
Placer (LT)	2045	LDT2	Aggregate	35	Diesel	192.91277	0.000640987	0.030323201	29.832%	0.19%	256.4167706	0.049466069	0.049466069	1.6436E-07	7.77538E-06
Placer (LT)	2045	LDT2	Aggregate	40	Gasoline	196.8007761	0.000673838	0.00319112	12.574%	18.09%	10328.13804	2.032585582	2.28523597	6.9595E-06	3.29583E-05
Placer (LT)	2045	LDT2	Aggregate	40	Diesel	180.0494483	0.000528637	0.028301266	12.574%	0.19%	108.0786945	0.019459509	0.019459509	5.71344E-08	3.05876E-06
Placer (LT)	2045	LDT2	Aggregate	45	Gasoline	197.4425911	0.000616575	0.003101473	18.067%	18.09%	14840.11062	2.930069893	3.29427758	9.15004E-06	4.60262E-05
Placer (LT)	2045	LDT2	Aggregate	45	Diesel	173.5982135	0.000447821	0.027287222	18.067%	0.19%	155.2941853	0.026958793	0.026958793	6.9544E-08	4.23755E-06
Placer (LT)	2045	LHD1	Aggregate	5	Gasoline	1547.456445	0.007143952	0.01491665	0.002%	0.97%	0.077342334	0.000119684	0.000119684	5.5253E-10	1.15369E-09
Placer (LT)	2045	LHD1	Aggregate	5	Diesel	977.3939375	0.035445114	0.153632716	0.002%	1.02%	0.081572067	7.9728E-05	7.9728E-05	2.89133E-09	1.25321E-08
Placer (LT)	2045	LHD1	Aggregate	10	Gasoline	1256.211809	0.004505586	0.012914681	0.004%	0.97%	0.18654924	0.000234345	0.000234345	8.40514E-10	2.40922E-09
Placer (LT)	2045	LHD1	Aggregate	10	Diesel	821.6521066	0.026470242	0.129152269	0.004%	1.02%	0.196751332	0.000161661	0.000161661	5.20806E-09	2.54109E-08
Placer (LT)	2045	LHD1	Aggregate	15	Gasoline	1027.332248	0.002995051	0.01138044	7.450%	0.97%	327.3349544	0.336281754	0.336281754	9.80385E-07	3.72522E-06
Placer (LT)	2045	LHD1	Aggregate	15	Diesel	536.6075827	0.013128089	0.084347239	7.450%	1.02%	345.2364016	0.185256471	0.185256471	4.53229E-06	2.91197E-05
Placer (LT)	2045	LHD1	Aggregate	20	Gasoline	853.9578417	0.002089417	0.010266231	0.276%	0.97%	12.12372933	0.010353154	0.010353154	2.53315E-08	1.24465E-07
Placer (LT)	2045	LHD1	Aggregate	20	Diesel	457.3769329	0.005334095	0.071893285	0.276%	1.02%	12.78675751	0.005848368	0.005848368	6.82058E-08	9.19282E-07
Placer (LT)	2045	LHD1	Aggregate	25	Gasoline	729.9189274	0.001530118	0.00948323	9.798%	0.97%	430.4725592	0.314210069	0.314210069	6.58674E-07	4.08227E-06
Placer (LT)	2045	LHD1	Aggregate	25	Diesel	405.6497798	0.00329458	0.063762496	9.798%	1.02%	454.014444	0.184170859	0.184170859	1.49579E-06	2.89491E-05
Placer (LT)	2045	LHD1	Aggregate	30	Gasoline	647.6804168	0.001193398	0.008773589	3.091%	0.97%	135.8155045	0.087965043	0.087965043	1.62082E-07	1.19159E-06
Placer (LT)	2045	LHD1	Aggregate	30	Diesel	368.3738541	0.002518357	0.05790324	3.091%	1.02%	143.2430463	0.052766993	0.052766993	3.60737E-07	8.29424E-06
Placer (LT)	2045	LHD1	Aggregate	35	Gasoline	600.3841534	0.000968423	0.0084191	29.832%	0.97%	1310.689731	0.786917345	0.786917345	1.2693E-06	1.10348E-05
Placer (LT)	2045	LHD1	Aggregate	35	Diesel	368.3738541	0.002026956	0.05790324	29.832%	1.02%	1382.369344	0.509228723	0.509228723	2.802E-06	8.00437E-05
Placer (LT)	2045	LHD1	Aggregate	40	Gasoline	581.1799741	0.000822686	0.008295315	12.574%	0.97%	552.4507415	0.321073308	0.321073308	4.54494E-07	4.58275E-06
Placer (LT)	2045	LHD1	Aggregate	40	Diesel	358.2891639	0.001695392	0.056318067	12.574%	1.02%	582.6634261	0.208761992	0.208761992	9.87843E-07	3.28145E-05
Placer (LT)	2045	LHD1	Aggregate	45	Gasoline	583.222468	0.000758076	0.007980755	18.067%	0.97%	793.7955598	0.462959406	0.462959406	6.01758E-07	6.33509E-06
Placer (LT)	2045	LHD1	Aggregate	45	Diesel	349.4828872	0.001462752	0.054933843	18.067%	1.02%	837.2070228	0.292589528	0.292589528	1.22463E-06	4.5991E-05
Placer (LT)	2045	LHD1	Aggregate	50	Gasoline	600.3425106	0.000750342	0.007603384	10.102%	0.97%	443.8409331	0.26645658	0.26645658	3.33032E-07	3.37469E-06
Placer (LT)	2045	LHD1	Aggregate	50	Diesel	366.3860942	0.001296636	0.057590792	10.102%	1.02%	468.1139137	0.171510428	0.171510428	6.06973E-07	2.69591E-05
Placer (LT)	2045	LHD1	Aggregate	55	Gasoline	624.9913365	0.000739835	0.007992624	8.803%	0.97%	386.775369	0.241731255	0.241731255	2.8615E-07	3.09135E-06
Placer (LT)	2045	LHD1	Aggregate	55	Diesel	382.8604663	0.001179148	0.060180334	8.803%	1.02%	407.9275213	0.156179321	0.156179321	4.81007E-07	2.45492E-05
Placer (LT)	2045	LHD2	Aggregate	5	Gasoline	1764.552292	0.006755259	0.016287311	0.002%	0.15%	0.011937189	2.10638E-05	2.10638E-05	8.06388E-11	1.94425E-10
Placer (LT)	2045	LHD2	Aggregate	5	Diesel	1061.151753	0.035981503	0.166798278	0.002%	0.43%	0.03477187	3.68982E-05	3.68982E-05	1.25114E-09	5.79989E-09
Placer (LT)	2045	LHD2	Aggregate	10	Gasoline	1432.445921	0.004260443	0.014108126	0.004%	0.15%	0.028792427	4.12436E-05	4.12436E-05	1.22668E-10	4.06207E-10
Placer (LT)	2045	LHD2	Aggregate	10	Diesel	943.0787167	0.026825854	0.148238841	0.004%	0.43%	0.08386954	7.90956E-05	7.90956E-05	2.24987E-09	1.24327E-08
Placer (LT)	2045	LHD2	Aggregate	15	Gasoline	1171.453373	0.002832094	0.012439113	7.450%	0.15%	50.52160957	0.05918371	0.05918371	1.43082E-07	6.28444E-07
Placer (LT)	2045	LHD2	Aggregate	15	Diesel	627.779143	0.013448125	0.098678139	7.450%	0.43%	147.1645345	0.092386825	0.092386825	1.97909E-06	1.45219E-05
Placer (LT)	2045	LHD2	Aggregate	20	Gasoline	973.7538013	0.001975735	0.011209897	0.276%	0.15%	1.871203522	0.001822092	0.001822092	3.697E-09	2.0976E-08
Placer (LT)	2045	LHD2	Aggregate	20	Diesel	535.4494251	0.005624366	0.084165193	0.276%	0.43%	5.450633851	0.002918539	0.002918539	3.06564E-08	4.58754E-07
Placer (LT)	2045	LHD2	Aggregate	25	Gasoline	832.3124248	0.001446866	0.010352479	9.798%	0.15%	66.44009836	0.055298919	0.055298919	9.61299E-08	6.8782E-07
Placer (LT)	2045	LHD2	Aggregate	25	Diesel	477.1692156	0.003535651	0.075004356	9.798%	0.43%	193.533544	0.092348249	0.092348249	6.84267E-07	1.45159E-05
Placer (LT)	2045	LHD2	Aggregate	30	Gasoline	738.536465	0.001128467	0.009575511	3.091%	0.15%	20.96206897	0.015481252	0.015481252	2.3655E-08	2.00723E-07
Placer (LT)	2045	LHD2	Aggregate	30	Diesel	430.3305196	0.002721893	0.067641965	3.091%	0.43%	61.06046796	0.026276183	0.026276183	1.662E-07	4.13025E-06
Placer (LT)	2045	LHD2	Aggregate	35	Gasoline	684.6065545	0.000915733	0.009184738	29.832%	0.15%	202.2947869	0.138492337	0.138492337	1.85248E-07	1.85802E-06
Placer (LT)	2045	LHD2	Aggregate	35	Diesel	430.3305196	0.002206465	0.067641965	29.832%	0.43%	589.2650375	0.25357873	0.25357873	1.30019E-06	3.9859E-05
Placer (LT)	2045	LHD2	Aggregate	40	Gasoline	662.710955	0.000777925	0.009057126	12.574%	0.15%	85.26648404	0.056507033	0.056507033	6.63309E-08	7.72269E-07
Placer (LT)	2045	LHD2	Aggregate	40	Diesel	414.6128038	0.001861044	0.065171359	12.574%	0.43%	248.3729743	0.102978615	0.102978615	4.62233E-07	1.61868E-05
Placer (LT)	2045	LHD2	Aggregate	45	Gasoline	665.0424693	0.00071683	0.0087082	18.067%	0.15%	122.5161835	0.081478465	0.081478465	8.78233E-08	1.0669E-06
Placer (LT)	2045	LHD2	Aggregate	45	Diesel	398.5447425	0.001622785	0.062645683	18.067%	0.43%	356.8777257	0.142231741	0.142231741	5.79136E-07	2.23568E-05
Placer (LT)	2045	LHD2	Aggregate	50	Gasoline	684.5667141	0.000709517	0.008301297	10.102%	0.15%	68.50340311	0.04689515	0.04689515	4.86043E-08	5.68667E-07
Placer (LT)	2045	LHD2	Aggregate	50	Diesel	413.2238162	0.001458489	0.064953029	10.102%	0.43%	199.54375	0.08245623	0.08245623	2.91032E-07	1.2961E-05
Placer (LT)	2045	LHD2	Aggregate	55	Gasoline	712.6777547	0.000699581	0.008726806	8.803%	0.15%	59.69577621	0.042543852	0.042543852	4.1762E-08	5.20953E-07
Placer (LT)	2045	LHD2	Aggregate	55	Diesel	427.706553	0.001350462	0.067229514	8.803%	0.43%	173.8879896	0.074373033	0.074373033	2.34829E-07	1.16904E-05
Placer (LT)	2045	MCY	Aggregate	10	Gasoline	435.3257624	1.267579427	0.092069081	0.004%	0.60%	0.11509185	5.01024E-05	5.01024E-05	1.45888E-07	1.05964E-08
Placer (LT)	2045	MCY	Aggregate	15	Gasoline	350.8230436	0.86766339	0.084135008	7.450%	0.60%	201.9498215	0.070848651	0.070848651	0.000175224	1.6991E-05
Placer (LT)	2045	MCY	Aggregate	20	Gasoline	289.4386441	0.625943605	0.078192835	0.276%	0.60%	7.47975412	0.00216493	0.00216493	4.6819E-06	5.84863E-07
Placer (LT)	2045	MCY	Aggregate	25	Gasoline	246.3629394	0.475709641	0.073830855	9.798%	0.60%	265.5807311	0.06542925	0.06542925	0.000126339	1.96081E-05
Placer (LT)	2045	MCY	Aggregate	30	Gasoline	217.8023313	0.380709672	0.070745891	3.091%	0.60%	83.79159181	0.018250004	0.018250004	3.19003E-05	5.92791E-06
Placer (LT)	2045	MCY	Aggregate	35	Gasoline	200.9109135	0.320721751	0.068719707	29.832%	0.60%	808.6321174	0.162463017	0.162463017	0.000259346	5.5569E-05
Placer (LT)	2045	MCY	Aggregate	40	Gasoline	193.2843313	0.284312725	0.067596438	12.574%	0.60%	340.8353649	0.065878136	0.065878136	9.69038E-05	2.30393E-05
Placer (LT)	2045	MCY	Aggregate	45	Gasoline	192.8008128	0.265133979	0.067270512	18.067%	0.60%	489.733435	0.094421004	0.094421004	0.000129845	3.29446E-05
Placer (LT)	2045	MDV	Aggregate	10	Gasoline	518.3314958	0.003873924	0.005549129	0.004%	11.14%	2.148357279	0.001113561	0.001251977	8.32257E-09	1.19215E-08
Placer (LT)	2045	MDV	Aggregate	10	Diesel	536.2918963	0.003263176	0.084297618	0.004%	0.41%	0.078993316	4.23635E-05	4.23635E-05	2.57769E-10	6.65895E-09
Placer (LT)	2045	MDV	Aggregate	15	Gasoline	423.9916593	0.002571418	0.004899581	7.450%	11.14%	3769.688013	1.598316276	1.796986989	9.69345E-06	1.84699E-05
Placer (LT)	2045	MDV	Aggregate	15	Diesel	454.8115418	0.001596159	0.071490041	7.450%	0.41%	138.6083036	0.063040656	0.063040656	2.21241E-07	9.90911E-06
Placer (LT)	2045	MDV	Aggregate	20	Gasoline	352.5198329	0.001800653	0.004395794	0.276%	11.14%	139.6205217	0.049219003	0.055336925	2.51408E-07	6.13743E-07
Placer (LT)	2045	MDV	Aggregate	20	Diesel	377.7191846	0.000623739	0.059372196	0.276%	0.41%	5.133730856	0.001939109	0.001939109	3.20211E-09	3.04801E-07
Placer (LT)	2045	MDV	Aggregate	25	Gasoline	301.3726679	0.001330215	0.004007471	9.798%	11.14%	4957.451762	1.494040464	1.679749693	6.59448E-06	1.98668E-05
Placer (LT)	2045	MDV	Aggregate	25	Diesel	319.4004372	0.000375687	0.050205301	9.798%	0.41%	182.2813921	0.058220756	0.058220756	6.84808E-08	9.15149E-06
Placer (LT)	2045	MDV	Aggregate	30	Gasoline	267.4442907	0.001036686	0.003712336	3.091%	11.14%	1564.092292	0.418307554	0.470303183	1.62147E-06	5.80644E-06
Placer (LT)	2045	MDV	Aggregate	30	Diesel	275.8625103	0.000284192	0.043361745	3.091%	0.41%	57.51037713	0.015864957	0.015864957	1.6344E-08	2.49375E-06
Placer (LT)	2045	MDV	Aggregate	35	Gasoline	247.9118239	0.00085233	0.003494416	29.832%	11.14%	15094.29806	3.742054963	4.207192394	1.28653E-05	5.27458E-05

Placer (LT)	2045	MDV	Aggregate	35	Diesel	250.3070804	0.00022631	0.039344787	29.832%	0.41%	555.0048284	0.138921638	0.138921638	1.25603E-07	2.18365E-05
Placer (LT)	2045	MDV	Aggregate	40	Gasoline	239.9529322	0.000739271	0.00334234	12.574%	11.14%	6362.18928	1.526625973	1.716385581	4.70338E-06	2.12646E-05
Placer (LT)	2045	MDV	Aggregate	40	Diesel	234.1278437	0.000186891	0.036801637	12.574%	0.41%	233.9324263	0.054770095	0.054770095	4.37199E-08	8.6091E-06
Placer (LT)	2045	MDV	Aggregate	45	Gasoline	240.7456323	0.000676447	0.003248445	18.067%	11.14%	9141.588963	2.200797615	2.474356758	6.1838E-06	2.96959E-05
Placer (LT)	2045	MDV	Aggregate	45	Diesel	225.3142405	0.000158598	0.035416261	18.067%	0.41%	336.1286489	0.075734571	0.075734571	5.33093E-08	1.19044E-05
Placer (LT)	2045	MH	Aggregate	5	Gasoline	3150.115286	0.020577856	0.033647459	0.002%	0.05%	0.003663047	1.1539E-05	1.1539E-05	7.53777E-11	1.23252E-10
Placer (LT)	2045	MH	Aggregate	5	Diesel	1702.376385	0.037992345	0.267589861	0.002%	0.02%	0.001778933	3.02841E-06	3.02841E-06	6.75858E-11	4.76024E-10
Placer (LT)	2045	MH	Aggregate	10	Gasoline	2557.200811	0.01294416	0.029245613	0.004%	0.05%	0.008835248	2.25935E-05	2.25935E-05	1.14365E-10	2.58392E-10
Placer (LT)	2045	MH	Aggregate	10	Diesel	1545.765075	0.028457341	0.242972744	0.004%	0.02%	0.004290775	6.63253E-06	6.63253E-06	1.22104E-10	1.04254E-09
Placer (LT)	2045	MH	Aggregate	15	Gasoline	2091.258156	0.00863582	0.025647399	7.450%	0.05%	15.50306794	0.032420917	0.032420917	1.33882E-07	3.97613E-07
Placer (LT)	2045	MH	Aggregate	15	Diesel	1269.20712	0.013977938	0.199501685	7.450%	0.02%	7.528953914	0.009555802	0.009555802	1.05239E-07	1.50204E-06
Placer (LT)	2045	MH	Aggregate	20	Gasoline	1738.31543	0.006045622	0.023021743	0.276%	0.05%	0.574197766	0.000998137	0.000998137	3.47138E-09	1.3219E-08
Placer (LT)	2045	MH	Aggregate	20	Diesel	1041.535388	0.005619341	0.163714859	0.276%	0.02%	0.278855033	0.000290437	0.000290437	1.56698E-09	4.56527E-08
Placer (LT)	2045	MH	Aggregate	25	Gasoline	1485.812629	0.004464593	0.020994327	9.798%	0.05%	20.38781756	0.030292477	0.030292477	9.10233E-08	4.28029E-07
Placer (LT)	2045	MH	Aggregate	25	Diesel	934.214912	0.003551461	0.146845574	9.798%	0.02%	9.901197583	0.009249846	0.009249846	3.51637E-08	1.45395E-06
Placer (LT)	2045	MH	Aggregate	30	Gasoline	1318.40165	0.003477201	0.019467895	3.091%	0.05%	6.432423317	0.008480518	0.008480518	2.23668E-08	1.25226E-07
Placer (LT)	2045	MH	Aggregate	30	Diesel	876.9019605	0.002768851	0.137836777	3.091%	0.02%	3.123860315	0.002739319	0.002739319	8.6495E-09	4.30583E-07
Placer (LT)	2045	MH	Aggregate	35	Gasoline	1222.130974	0.002850308	0.018399461	29.832%	0.05%	62.07620567	0.075865254	0.075865254	1.76936E-07	1.14217E-06
Placer (LT)	2045	MH	Aggregate	35	Diesel	829.3393164	0.002250125	0.130360591	29.832%	0.02%	30.1468647	0.02500198	0.02500198	6.78342E-08	3.92996E-06
Placer (LT)	2045	MH	Aggregate	40	Gasoline	1183.051762	0.002465157	0.017677593	12.574%	0.05%	26.16488482	0.030954413	0.030954413	6.45006E-08	4.62532E-07
Placer (LT)	2045	MH	Aggregate	40	Diesel	791.5269797	0.001882844	0.124417019	12.574%	0.02%	12.70678892	0.010057766	0.010057766	2.39249E-08	1.58094E-06
Placer (LT)	2045	MH	Aggregate	45	Gasoline	1187.216343	0.002261401	0.017106736	18.067%	0.05%	37.59533264	0.044633793	0.044633793	8.50181E-08	6.43133E-07
Placer (LT)	2045	MH	Aggregate	45	Diesel	763.4649504	0.001612597	0.120006058	18.067%	0.02%	18.25790404	0.01393927	0.01393927	2.94427E-08	2.19106E-06
Placer (LT)	2045	MH	Aggregate	50	Gasoline	1222.067496	0.002170136	0.017045969	10.102%	0.05%	21.02096354	0.025689036	0.025689036	4.56183E-08	3.58323E-07
Placer (LT)	2045	MH	Aggregate	50	Diesel	745.1532284	0.001410153	0.117127711	10.102%	0.02%	10.20868039	0.007607031	0.007607031	1.43958E-08	1.19572E-06
Placer (LT)	2045	MH	Aggregate	55	Gasoline	1272.264086	0.002192996	0.017302419	8.803%	0.05%	18.31825396	0.023305657	0.023305657	4.01719E-08	3.1695E-07
Placer (LT)	2045	MH	Aggregate	55	Diesel	736.5918138	0.001258527	0.115781975	8.803%	0.02%	8.896128839	0.006552816	0.006552816	1.1196E-08	1.03001E-06
Placer (LT)	2045	MH	Aggregate	60	Gasoline	1323.859636	0.002349759	0.017692398	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2045	MH	Aggregate	60	Diesel	737.7807066	0.001193098	0.115968853	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2045	MH	Aggregate	65	Gasoline	1364.302963	0.00269439	0.018032192	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2045	MH	Aggregate	65	Diesel	748.7199068	0.001194105	0.117688343	0.000%	0.02%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	5	Diesel	2918.17254	0.005201461	0.458696085	0.002%	0.11%	0.009125834	2.66308E-05	2.66308E-05	4.74677E-11	4.18598E-09
Placer (LT)	2045	Motor Coach	Aggregate	10	Diesel	2412.708175	0.003263964	0.379244126	0.004%	0.11%	0.022011456	5.31072E-05	5.31072E-05	7.18446E-11	8.34772E-09
Placer (LT)	2045	Motor Coach	Aggregate	15	Diesel	1898.599354	0.001814583	0.298433379	7.450%	0.11%	38.62314766	0.073329883	0.073329883	7.00849E-08	1.15264E-05
Placer (LT)	2045	Motor Coach	Aggregate	20	Diesel	1621.374007	0.001232632	0.254857415	0.276%	0.11%	1.430512024	0.002319395	0.002319395	1.76329E-09	3.64577E-07
Placer (LT)	2045	Motor Coach	Aggregate	25	Diesel	1414.947297	0.000968004	0.222410011	9.798%	0.11%	50.79263609	0.071868903	0.071868903	4.91675E-08	1.12968E-05
Placer (LT)	2045	Motor Coach	Aggregate	30	Diesel	1243.083458	0.000782922	0.195395409	3.091%	0.11%	16.0252433	0.019920715	0.019920715	1.25465E-08	3.13126E-06
Placer (LT)	2045	Motor Coach	Aggregate	35	Diesel	1111.063625	0.000644785	0.174643729	29.832%	0.11%	154.6518706	0.171828068	0.171828068	9.97172E-08	2.7009E-05
Placer (LT)	2045	Motor Coach	Aggregate	40	Diesel	1018.8878	0.000553593	0.160154973	12.574%	0.11%	65.18517585	0.06641638	0.06641638	3.60861E-08	1.04397E-05
Placer (LT)	2045	Motor Coach	Aggregate	45	Diesel	966.5559828	0.000509346	0.15192914	18.067%	0.11%	93.66211187	0.090529675	0.090529675	4.77064E-08	1.423E-05
Placer (LT)	2045	Motor Coach	Aggregate	50	Diesel	954.0681723	0.000512044	0.149966231	10.102%	0.11%	52.37000714	0.049964557	0.049964557	2.68157E-08	7.85373E-06
Placer (LT)	2045	Motor Coach	Aggregate	55	Diesel	981.4243702	0.000561686	0.154266244	8.803%	0.11%	45.63668495	0.044788955	0.044788955	2.56335E-08	7.0402E-06
Placer (LT)	2045	Motor Coach	Aggregate	60	Diesel	1048.624576	0.000658274	0.16482918	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	65	Diesel	1155.668789	0.000801807	0.18165504	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	70	Diesel	1155.668789	0.000992037	0.18165504	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	75	Diesel	1155.668789	0.001229152	0.18165504	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	80	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	85	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	Motor Coach	Aggregate	90	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	OBUS	Aggregate	5	Gasoline	3207.379965	0.028169296	0.046671281	0.002%	0.05%	0.003802608	1.21964E-05	1.21964E-05	1.07117E-10	1.77473E-10
Placer (LT)	2045	OBUS	Aggregate	10	Gasoline	2603.707535	0.01771943	0.040565624	0.004%	0.05%	0.009171867	2.38809E-05	2.38809E-05	1.6252E-10	3.72062E-10
Placer (LT)	2045	OBUS	Aggregate	15	Gasoline	2129.328169	0.011821686	0.035574662	7.450%	0.05%	16.09372699	0.034268826	0.034268826	1.90255E-07	5.72529E-07
Placer (LT)	2045	OBUS	Aggregate	20	Gasoline	1769.993673	0.008275931	0.0319327	0.276%	0.05%	0.59607441	0.001055048	0.001055048	4.93307E-09	1.90343E-08
Placer (LT)	2045	OBUS	Aggregate	25	Gasoline	1512.913135	0.00611164	0.029120539	9.798%	0.05%	21.1645831	0.032020176	0.032020176	1.2935E-07	6.16324E-07
Placer (LT)	2045	OBUS	Aggregate	30	Gasoline	1342.458147	0.004759986	0.027003275	3.091%	0.05%	6.677495393	0.008964258	0.008964258	3.17848E-08	1.80314E-07
Placer (LT)	2045	OBUS	Aggregate	35	Gasoline	1244.423482	0.003901824	0.025521285	29.832%	0.05%	64.44127772	0.080192239	0.080192239	2.51439E-07	1.64462E-06
Placer (LT)	2045	OBUS	Aggregate	40	Gasoline	1204.609958	0.003374586	0.024520006	12.574%	0.05%	27.1617537	0.032719319	0.032719319	9.16597E-08	6.66006E-07
Placer (LT)	2045	OBUS	Aggregate	45	Gasoline	1208.820964	0.003095661	0.023728189	18.067%	0.05%	39.0276958	0.047177497	0.047177497	1.20817E-07	9.26057E-07
Placer (LT)	2045	OBUS	Aggregate	50	Gasoline	1244.268857	0.002970728	0.023643901	10.102%	0.05%	21.82185162	0.02715225	0.02715225	6.48268E-08	5.15954E-07
Placer (LT)	2045	OBUS	Aggregate	55	Gasoline	1295.340235	0.003002021	0.023999615	8.803%	0.05%	19.01617017	0.02463241	0.02463241	5.70869E-08	4.56381E-07
Placer (LT)	2045	OBUS	Aggregate	60	Gasoline	1347.841007	0.003216615	0.024540541	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2045	OBUS	Aggregate	65	Gasoline	1388.997906	0.003688385	0.025011858	0.000%	0.05%	0	0	0	0	0
Placer (LT)	2045	PTO	Aggregate	20	Diesel	2348.837764	0.001853974	0.369204587	0.276%	0.00%	0.000505553	1.18746E-06	1.18746E-06	9.37281E-13	1.86652E-10
Placer (LT)	2045	SBUS	Aggregate	5	Gasoline	1523.275526	0.012765676	0.023053603	0.002%	0.03%	0.00205031	3.12319E-06	3.12319E-06	2.61736E-11	4.7267E-11
Placer (LT)	2045	SBUS	Aggregate	5	Diesel	2325.067453	0.002867431	0.365468225	0.002%	0.01%	0.000434156	1.00944E-06	1.00944E-06	1.24491E-12	1.5867E-10
Placer (LT)	2045	SBUS	Aggregate	10	Gasoline	1236.572772	0.008054129	0.019953938	0.004%	0.03%	0.004945334	6.11527E-06	6.11527E-06	3.98304E-11	9.86789E-11
Placer (LT)	2045	SBUS	Aggregate	10	Diesel	1922.353932	0.001799995	0.302167268	0.004%	0.01%	0.001047183	2.01306E-06	2.01306E-06	1.88492E-12	3.16424E-10
Placer (LT)	2045	SBUS	Aggregate	15	Gasoline	1011.270927	0.005346139	0.01761825	7.450%	0.03%	8.677498589	0.008775302	0.008775302	4.63911E-08	1.52882E-07
Placer (LT)	2045	SBUS	Aggregate	15	Diesel	1512.738319	0.001000507	0.237781398	7.450%	0.01%	1.837474477	0.002779618	0.002779618	1.83841E-09	4.36917E-07
Placer (LT)	2045	SBUS	Aggregate	20	Gasoline	840.6114255	0.003744745	0.015800204	0.276%	0.03%	0.32139447	0.000270168	0.000270168	1.20354E-09	5.0781E-09
Placer (LT)	2045	SBUS	Aggregate	20	Diesel	1291.849373	0.000679227	0.203060731	0.276%	0.01%	0.068055803	8.79178E-05	8.79178E-05	4.62253E-11	1.38195E-08
Placer (LT)	2045	SBUS	Aggregate	25	Gasoline	718.5158463	0.002765098	0.014414085	9.798%	0.03%	11.4116289	0.008199436	0.008199436	3.15543E-08	1.64488E-07
Placer (LT)	2045	SBUS	Aggregate	25	Diesel	1127.379601	0.0005334	0.177208374	9.798%	0.01%	2.416431028	0.002724235	0.002724235	1.28892E-09	4.28212E-07
Placer (LT)	2045	SBUS	Aggregate	30	Gasoline	637.5621876	0.002154027	0.013360649	3.091%	0.03%	3.60040635	0.002295483	0.002295483	7.75537E-09	4.81038E-08

Placer (LT)	2045	SBUS	Aggregate	30	Diesel	990.4517438	0.000431457	0.155685221	3.091%	0.01%	0.762391916	0.000755112	0.000755112	3.2894E-10	1.18693E-07
Placer (LT)	2045	SBUS	Aggregate	35	Gasoline	591.0038242	0.00176629	0.01262386	29.832%	0.03%	34.74577994	0.020534889	0.020534889	6.13711E-08	4.38626E-07
Placer (LT)	2045	SBUS	Aggregate	35	Diesel	885.2680707	0.000355361	0.139151813	29.832%	0.01%	7.357475563	0.006513338	0.006513338	2.61456E-09	1.02381E-06
Placer (LT)	2045	SBUS	Aggregate	40	Gasoline	572.0971008	0.001529257	0.01210512	12.574%	0.03%	14.64521422	0.008378485	0.008378485	2.23963E-08	1.77282E-07
Placer (LT)	2045	SBUS	Aggregate	40	Diesel	811.8285815	0.00030511	0.127608148	12.574%	0.01%	3.101147994	0.002517601	0.002517601	9.4619E-10	3.95732E-07
Placer (LT)	2045	SBUS	Aggregate	45	Gasoline	574.0979174	0.001398039	0.011780027	18.067%	0.03%	21.04315398	0.012080831	0.012080831	2.94192E-08	2.47889E-07
Placer (LT)	2045	SBUS	Aggregate	45	Diesel	770.1332775	0.000280705	0.121054226	18.067%	0.01%	4.455922171	0.003431654	0.003431654	1.2508E-09	5.39408E-07
Placer (LT)	2045	SBUS	Aggregate	50	Gasoline	590.9377119	0.001353875	0.011581003	10.102%	0.03%	11.76601832	0.006952984	0.006952984	1.59297E-08	1.36262E-07
Placer (LT)	2045	SBUS	Aggregate	50	Diesel	760.1821573	0.000282146	0.119490049	10.102%	0.01%	2.491473567	0.001893974	0.001893974	7.02959E-10	2.97706E-07
Placer (LT)	2045	SBUS	Aggregate	55	Gasoline	615.1934565	0.001357983	0.011870185	8.803%	0.03%	10.25323655	0.006307724	0.006307724	1.39237E-08	1.21708E-07
Placer (LT)	2045	SBUS	Aggregate	55	Diesel	781.9752224	0.000309433	0.122915615	8.803%	0.01%	2.17113956	0.001697777	0.001697777	6.71822E-10	2.66867E-07
Placer (LT)	2045	SBUS	Aggregate	60	Gasoline	640.1309989	0.001464035	0.012045724	0.000%	0.03%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	60	Diesel	835.5122425	0.000362572	0.131330889	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	65	Diesel	920.7922883	0.000441552	0.144735725	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	70	Diesel	920.7922883	0.000546364	0.144735725	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	75	Diesel	920.7922883	0.000677007	0.144735725	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	SBUS	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	5	Diesel	2427.080072	0.003195234	0.381503188	0.002%	0.00%	1.9812E-06	4.80853E-09	4.80853E-09	6.3304E-15	7.55834E-13
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	10	Diesel	2006.679129	0.002005038	0.315422014	0.004%	0.00%	4.77864E-06	9.5892E-09	9.5892E-09	9.58136E-15	1.50729E-12
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	15	Diesel	1579.088486	0.00111469	0.24821072	7.450%	0.00%	0.008385007	1.32407E-05	1.32407E-05	9.34668E-12	2.08125E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	20	Diesel	1347.066153	0.0007572	0.21174004	0.276%	0.00%	0.000310561	4.18347E-07	4.18347E-07	2.35157E-13	6.57582E-11
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	25	Diesel	1174.365715	0.00059464	0.184593936	9.798%	0.00%	0.011026978	1.29497E-05	1.29497E-05	6.55709E-12	2.03551E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	30	Diesel	1030.130574	0.000480945	0.161922181	3.091%	0.00%	0.003479048	3.58387E-06	3.58387E-06	1.67323E-12	5.63335E-10
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	35	Diesel	918.7658829	0.000396088	0.144417202	29.832%	0.00%	0.033574606	3.08472E-05	3.08472E-05	1.32985E-11	4.84875E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	40	Diesel	837.6653015	0.00034007	0.13166932	12.574%	0.00%	0.014151569	1.18543E-05	1.18543E-05	4.81252E-12	1.86333E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	45	Diesel	794.0337199	0.000312889	0.124811043	18.067%	0.00%	0.020333853	1.61458E-05	1.61458E-05	6.36224E-12	2.53789E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	50	Diesel	780.1529509	0.000314546	0.12262918	10.102%	0.00%	0.011369422	8.86989E-06	8.86989E-06	3.57621E-12	1.39422E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	55	Diesel	797.9898011	0.000345041	0.125432884	8.803%	0.00%	0.009907631	7.90619E-06	7.90619E-06	3.41854E-12	1.24274E-09
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	60	Diesel	846.79797	0.000404375	0.133104849	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	65	Diesel	933.2396044	0.000492546	0.14669227	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	70	Diesel	933.2396044	0.000585985	0.14669227	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	75	Diesel	933.2396044	0.000702452	0.14669227	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	5	Diesel	2454.88587	0.003182562	0.385873872	0.002%	0.00%	2.70394E-07	6.63786E-10	6.63786E-10	8.60545E-16	1.04338E-13
Placer (LT)	2045	T6 CAIRP small	Aggregate	10	Diesel	2029.668611	0.001997087	0.319035641	0.004%	0.00%	6.52189E-07	1.32373E-09	1.32373E-09	1.30248E-15	2.08071E-13
Placer (LT)	2045	T6 CAIRP small	Aggregate	15	Diesel	1597.179284	0.001110269	0.251054341	7.450%	0.00%	0.001144385	1.82779E-06	1.82779E-06	1.27058E-12	2.87303E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	20	Diesel	1363.966004	0.000754197	0.214396461	0.276%	0.00%	4.23854E-05	5.78122E-08	5.78122E-08	3.19669E-14	9.08727E-12
Placer (LT)	2045	T6 CAIRP small	Aggregate	25	Diesel	1190.311429	0.000592282	0.187100381	9.798%	0.00%	0.001504961	1.79137E-06	1.79137E-06	8.91361E-13	2.81579E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	30	Diesel	1045.732551	0.000479038	0.164374594	3.091%	0.00%	0.00047482	4.96535E-07	4.96535E-07	2.27457E-13	7.80483E-11
Placer (LT)	2045	T6 CAIRP small	Aggregate	35	Diesel	934.6720788	0.000394518	0.146917435	29.832%	0.00%	0.004582258	4.28291E-06	4.28291E-06	1.80778E-12	6.73214E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	40	Diesel	857.1300115	0.000338721	0.134728902	12.574%	0.00%	0.001931405	1.65546E-06	1.65546E-06	6.54207E-13	2.60216E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	45	Diesel	813.1063505	0.000311648	0.127808995	18.067%	0.00%	0.002775162	2.2565E-06	2.2565E-06	8.64874E-13	3.54691E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	50	Diesel	802.6010946	0.000313299	0.126157715	10.102%	0.00%	0.001551697	1.24539E-06	1.24539E-06	4.86145E-13	1.95759E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	55	Diesel	825.614245	0.000343673	0.129775062	8.803%	0.00%	0.001352192	1.11639E-06	1.11639E-06	4.64712E-13	1.75481E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	60	Diesel	882.1458018	0.000402771	0.138661035	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	65	Diesel	972.1957636	0.000490593	0.152815635	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	70	Diesel	972.1957636	0.000585741	0.152815635	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	75	Diesel	972.1957636	0.00070434	0.152815635	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 CAIRP small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	5	Diesel	2014.123843	0.002725764	0.31659222	0.002%	0.08%	0.006167673	1.24225E-05	1.24225E-05	1.68116E-11	1.95264E-09
Placer (LT)	2045	T6 instate construction heavy	Aggregate	10	Diesel	1665.397425	0.001716112	0.261777283	0.004%	0.08%	0.01487639	2.47751E-05	2.47751E-05	2.55295E-11	3.8943E-09
Placer (LT)	2045	T6 instate construction heavy	Aggregate	15	Diesel	1310.594558	0.000953573	0.206007213	7.450%	0.08%	26.10336276	0.034210925	0.034210925	2.48915E-08	5.37748E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	20	Diesel	1119.197632	0.000645099	0.175922282	0.276%	0.08%	0.966808159	0.001082049	0.001082049	6.23687E-10	1.70083E-07
Placer (LT)	2045	T6 instate construction heavy	Aggregate	25	Diesel	976.7369355	0.000506362	0.153529444	9.798%	0.08%	34.32808266	0.033529506	0.033529506	1.73824E-08	5.27037E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	30	Diesel	858.1597676	0.00040965	0.134890765	3.091%	0.08%	10.83062268	0.009294405	0.009294405	4.43676E-09	1.46095E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	35	Diesel	767.0696552	0.000337404	0.120572668	29.832%	0.08%	104.5211	0.080174964	0.080174964	3.52659E-08	1.26024E-05
Placer (LT)	2045	T6 instate construction heavy	Aggregate	40	Diesel	703.4654152	0.000289589	0.110574967	12.574%	0.08%	44.05524652	0.030991342	0.030991342	1.27579E-08	4.87141E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	45	Diesel	667.3463553	0.000266178	0.104897554	18.067%	0.08%	63.30131621	0.042243903	0.042243903	1.68494E-08	6.64015E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	50	Diesel	658.7120366	0.000267149	0.103540359	10.102%	0.08%	35.39414514	0.023314549	0.023314549	9.45551E-09	3.66472E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	55	Diesel	677.5621673	0.000292489	0.106503337	8.803%	0.08%	30.84344531	0.020898352	0.020898352	9.02137E-09	3.28493E-06
Placer (LT)	2045	T6 instate construction heavy	Aggregate	60	Diesel	723.897573	0.000342234	0.113786618	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	65	Diesel	797.7112487	0.000416278	0.1253891	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	70	Diesel	797.7112487	0.000508783	0.1253891	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	75	Diesel	797.7112487	0.000624086	0.1253891	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.08%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	5	Diesel	1896.66016	0.002399732	0.298128565	0.002%	0.40%	0.032241645	6.11514E-05	6.11514E-05	7.73713E-11	9.61216E-09

Placer (LT)	2045	T6 instate construction small	Aggregate	10	Diesel	1568.136592	0.001505946	0.246489235	0.004%	0.40%	0.077766653	0.000121949	0.000121949	1.17112E-10	1.91686E-08
Placer (LT)	2045	T6 instate construction small	Aggregate	15	Diesel	1233.993323	0.000837242	0.193966566	7.450%	0.40%	136.4558972	0.168385666	0.168385666	1.14247E-07	2.64679E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	20	Diesel	1053.81081	0.000568711	0.165644384	0.276%	0.40%	5.054010703	0.005325971	0.005325971	2.87427E-09	8.37168E-07
Placer (LT)	2045	T6 instate construction small	Aggregate	25	Diesel	919.644429	0.00044661	0.144555297	9.798%	0.40%	179.4507996	0.165030928	0.165030928	8.01445E-08	2.59406E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	30	Diesel	807.9424276	0.000361215	0.126997298	3.091%	0.40%	56.61731589	0.045743532	0.045743532	2.0451E-08	7.19025E-06
Placer (LT)	2045	T6 instate construction small	Aggregate	35	Diesel	722.1367956	0.000297479	0.113509848	29.832%	0.40%	546.3863263	0.394565671	0.394565671	1.62538E-07	6.20202E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	40	Diesel	662.2274931	0.000255401	0.10409294	12.574%	0.40%	230.2997605	0.152510833	0.152510833	5.88189E-08	2.39726E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	45	Diesel	628.214498	0.000234981	0.098746571	18.067%	0.40%	330.9090088	0.207881837	0.207881837	7.77573E-08	3.26761E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	50	Diesel	620.0977945	0.000236217	0.097470738	10.102%	0.40%	185.0236644	0.114732766	0.114732766	4.37057E-08	1.80344E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	55	Diesel	637.8773737	0.000259108	0.10026544	8.803%	0.40%	161.2347819	0.102848019	0.102848019	4.17772E-08	1.61663E-05
Placer (LT)	2045	T6 instate construction small	Aggregate	60	Diesel	681.553302	0.000303656	0.107130688	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	65	Diesel	751.1254985	0.000369859	0.118066468	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	70	Diesel	751.1254985	0.000457357	0.118066468	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	75	Diesel	751.1254985	0.000566419	0.118066468	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	80	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	85	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate construction small	Aggregate	90	Diesel	0	0	0	0.000%	0.40%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	5	Diesel	1776.501547	0.002573988	0.279241304	0.002%	0.38%	0.030050256	5.33843E-05	5.33843E-05	7.7349E-11	8.39127E-09
Placer (LT)	2045	T6 instate heavy	Aggregate	10	Diesel	1469.023222	0.001625243	0.230909993	0.004%	0.38%	0.072481035	0.000106476	0.000106476	1.17799E-10	1.67366E-08
Placer (LT)	2045	T6 instate heavy	Aggregate	15	Diesel	1156.094093	0.00090133	0.181721892	7.450%	0.38%	127.1813073	0.147033558	0.147033558	1.14632E-07	2.31116E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	20	Diesel	987.1102426	0.000606247	0.155159984	0.276%	0.38%	4.710501352	0.004649784	0.004649784	2.85573E-09	7.30881E-07
Placer (LT)	2045	T6 instate heavy	Aggregate	25	Diesel	861.387391	0.000475526	0.135398102	9.798%	0.38%	167.2539462	0.14407044	0.14407044	7.95336E-08	2.26459E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	30	Diesel	756.7319101	0.000384807	0.118947718	3.091%	0.38%	52.76916863	0.039932114	0.039932114	2.0306E-08	6.27677E-06
Placer (LT)	2045	T6 instate heavy	Aggregate	35	Diesel	676.2888238	0.000316999	0.106303185	29.832%	0.38%	509.2497188	0.344399893	0.344399893	1.61432E-07	5.41349E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	40	Diesel	619.8535799	0.00027208	0.097432351	12.574%	0.38%	214.6468215	0.133049601	0.133049601	5.8401E-08	2.09135E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	45	Diesel	587.9897015	0.000250032	0.092423793	18.067%	0.38%	308.4178932	0.181346545	0.181346545	7.71144E-08	2.85052E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	50	Diesel	580.0934198	0.000250845	0.091182607	10.102%	0.38%	172.4480363	0.100035971	0.100035971	4.32577E-08	1.57243E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	55	Diesel	596.3190498	0.000274509	0.09373305	8.803%	0.38%	150.2760289	0.089612459	0.089612459	4.12521E-08	1.40858E-05
Placer (LT)	2045	T6 instate heavy	Aggregate	60	Diesel	636.6076428	0.000320894	0.100065856	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	65	Diesel	701.46773	0.000389759	0.110260959	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	70	Diesel	701.46773	0.000476907	0.110260959	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	75	Diesel	701.46773	0.000585535	0.110260959	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	5	Diesel	1894.36178	0.002403741	0.297767291	0.002%	0.51%	0.040463493	7.66525E-05	7.66525E-05	9.72638E-11	1.20487E-08
Placer (LT)	2045	T6 instate small	Aggregate	10	Diesel	1566.262459	0.001509867	0.246194647	0.004%	0.51%	0.097597699	0.000152864	0.000152864	1.4736E-10	2.4028E-08
Placer (LT)	2045	T6 instate small	Aggregate	15	Diesel	1232.534463	0.000839874	0.193737254	7.450%	0.51%	171.2531146	0.211075366	0.211075366	1.43831E-07	3.31781E-05
Placer (LT)	2045	T6 instate small	Aggregate	20	Diesel	1052.565277	0.000570308	0.165448604	0.276%	0.51%	6.342819121	0.006676231	0.006676231	3.61736E-09	1.04941E-06
Placer (LT)	2045	T6 instate small	Aggregate	25	Diesel	918.564696	0.000447746	0.144385578	9.798%	0.51%	225.2120206	0.206871811	0.206871811	1.00838E-07	3.25174E-05
Placer (LT)	2045	T6 instate small	Aggregate	30	Diesel	807.0051719	0.000362053	0.126849975	3.091%	0.51%	71.05513125	0.057341858	0.057341858	2.57257E-08	9.01334E-06
Placer (LT)	2045	T6 instate small	Aggregate	35	Diesel	721.3085761	0.000298092	0.113379663	29.832%	0.51%	685.7186979	0.494614778	0.494614778	2.04407E-07	7.77466E-05
Placer (LT)	2045	T6 instate small	Aggregate	40	Diesel	661.4742121	0.000255833	0.103974535	12.574%	0.51%	289.0278257	0.191184453	0.191184453	7.39428E-08	3.00515E-05
Placer (LT)	2045	T6 instate small	Aggregate	45	Diesel	627.5016728	0.000235254	0.098634524	18.067%	0.51%	415.2931428	0.260597142	0.260597142	9.76995E-08	4.09622E-05
Placer (LT)	2045	T6 instate small	Aggregate	50	Diesel	619.3906992	0.000236341	0.097359592	10.102%	0.51%	232.2060054	0.14382624	0.14382624	5.48798E-08	2.26075E-05
Placer (LT)	2045	T6 instate small	Aggregate	55	Diesel	637.1411201	0.000259082	0.100149711	8.803%	0.51%	202.3507899	0.128926009	0.128926009	5.24254E-08	2.02654E-05
Placer (LT)	2045	T6 instate small	Aggregate	60	Diesel	680.754175	0.000303499	0.107005076	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	65	Diesel	750.2287784	0.000369565	0.117925516	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	70	Diesel	750.2287784	0.000456978	0.117925516	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	75	Diesel	750.2287784	0.000565936	0.117925516	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	80	Diesel	0	0	0	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	85	Diesel	0	0	0	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 instate small	Aggregate	90	Diesel	0	0	0	0.000%	0.51%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	5	Diesel	2423.851909	0.003190819	0.380995766	0.002%	0.00%	1.00376E-06	2.43297E-09	2.43297E-09	3.20282E-15	3.82428E-13
Placer (LT)	2045	T6 OOS heavy	Aggregate	10	Diesel	2004.010125	0.002002268	0.315002484	0.004%	0.00%	2.42106E-06	4.85183E-09	4.85183E-09	4.84762E-15	7.62641E-13
Placer (LT)	2045	T6 OOS heavy	Aggregate	15	Diesel	1576.988203	0.00111315	0.247880585	7.450%	0.00%	0.0042482	6.69936E-06	6.69936E-06	4.72888E-12	1.05305E-09
Placer (LT)	2045	T6 OOS heavy	Aggregate	20	Diesel	1345.276432	0.000756154	0.211458721	0.276%	0.00%	0.000157343	2.11671E-07	2.11671E-07	1.18976E-13	3.32717E-11
Placer (LT)	2045	T6 OOS heavy	Aggregate	25	Diesel	1172.807064	0.000593819	0.184348938	9.798%	0.00%	0.005586735	6.55216E-06	6.55216E-06	3.31751E-12	1.02991E-09
Placer (LT)	2045	T6 OOS heavy	Aggregate	30	Diesel	1028.765512	0.000480281	0.161707612	3.091%	0.00%	0.001762633	1.81334E-06	1.81334E-06	8.46559E-13	2.85031E-10
Placer (LT)	2045	T6 OOS heavy	Aggregate	35	Diesel	917.551052	0.000395541	0.144226248	29.832%	0.00%	0.017010319	1.56078E-05	1.56078E-05	6.72828E-12	2.45333E-09
Placer (LT)	2045	T6 OOS heavy	Aggregate	40	Diesel	836.5643307	0.0003396	0.131496263	12.574%	0.00%	0.007169785	5.99799E-06	5.99799E-06	2.43486E-12	9.428E-10
Placer (LT)	2045	T6 OOS heavy	Aggregate	45	Diesel	792.9909256	0.000312456	0.12464713	18.067%	0.00%	0.010301993	8.16939E-06	8.16939E-06	3.21892E-12	1.28411E-09
Placer (LT)	2045	T6 OOS heavy	Aggregate	50	Diesel	779.1333378	0.000314111	0.122468911	10.102%	0.00%	0.005760231	4.48799E-06	4.48799E-06	1.80935E-12	7.05449E-10
Placer (LT)	2045	T6 OOS heavy	Aggregate	55	Diesel	796.9531018	0.000344565	0.125269929	8.803%	0.00%	0.005019626	4.00041E-06	4.00041E-06	1.72959E-12	6.28808E-10
Placer (LT)	2045	T6 OOS heavy	Aggregate	60	Diesel	845.7059177	0.000403816	0.132933193	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	65	Diesel	932.0360748	0.000491866	0.146503092	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	70	Diesel	932.0360748	0.000585932	0.146503092	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	75	Diesel	932.0360748	0.000703181	0.146503092	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS heavy	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	5	Diesel	2474.207501	0.003220951	0.388910964	0.002%	0.00%	8.23786E-07	2.03822E-09	2.03822E-09	2.65337E-15	3.20379E-13
Placer (LT)	2045	T6 OOS small	Aggregate	10	Diesel	2045.643492	0.002021176	0.32154667	0.004%	0.00%	1.98697E-06	4.06463E-09	4.06463E-09	4.01601E-15	6.38903E-13
Placer (LT)	2045	T6 OOS small	Aggregate	15	Diesel	1609.750178	0.001123662	0.253030311	7.450%	0.00%	0.003486499	5.61239E-06	5.61239E-06	3.91765E-12	8.8219E-10

Placer (LT)	2045	T6 OOS small	Aggregate	20	Diesel	1374.70135	0.000763295	0.216083908	0.276%	0.00%	0.000129132	1.77518E-07	1.77518E-07	9.85656E-14	2.79033E-11
Placer (LT)	2045	T6 OOS small	Aggregate	25	Diesel	1199.679994	0.000599426	0.188572989	9.798%	0.00%	0.004585035	5.50057E-06	5.50057E-06	2.74839E-12	8.64614E-10
Placer (LT)	2045	T6 OOS small	Aggregate	30	Diesel	1053.963182	0.000484816	0.165668335	3.091%	0.00%	0.001446594	1.52466E-06	1.52466E-06	7.01332E-13	2.39655E-10
Placer (LT)	2045	T6 OOS small	Aggregate	35	Diesel	942.0285877	0.000399276	0.148073775	29.832%	0.00%	0.013960374	1.31511E-05	1.31511E-05	5.57405E-12	2.06717E-09
Placer (LT)	2045	T6 OOS small	Aggregate	40	Diesel	863.8762112	0.000342807	0.13578931	12.574%	0.00%	0.005884245	5.08326E-06	5.08326E-06	2.01716E-12	7.99018E-10
Placer (LT)	2045	T6 OOS small	Aggregate	45	Diesel	819.5060539	0.000315407	0.128814939	18.067%	0.00%	0.008454848	6.9288E-06	6.9288E-06	2.66672E-12	1.08911E-09
Placer (LT)	2045	T6 OOS small	Aggregate	50	Diesel	808.9181144	0.000317078	0.127150663	10.102%	0.00%	0.004727424	3.8241E-06	3.8241E-06	1.49896E-12	6.01095E-10
Placer (LT)	2045	T6 OOS small	Aggregate	55	Diesel	832.1123941	0.000347819	0.130796481	8.803%	0.00%	0.004119609	3.42798E-06	3.42798E-06	1.43288E-12	5.3883E-10
Placer (LT)	2045	T6 OOS small	Aggregate	60	Diesel	889.0888929	0.00040763	0.139752393	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	65	Diesel	979.8476095	0.000496511	0.154018399	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	70	Diesel	979.8476095	0.000586016	0.154018399	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	75	Diesel	979.8476095	0.000697581	0.154018399	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 OOS small	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	5	Diesel	2476.641973	0.018926932	0.389293629	0.002%	0.00%	0.000184635	4.57276E-07	4.57276E-07	3.49458E-12	7.18774E-11
Placer (LT)	2045	T6 Public	Aggregate	10	Diesel	2127.131972	0.014645527	0.334355524	0.004%	0.00%	0.000445339	9.47295E-07	9.47295E-07	6.52223E-12	1.48902E-10
Placer (LT)	2045	T6 Public	Aggregate	15	Diesel	1721.5353	0.009083486	0.270601375	7.450%	0.00%	0.781429734	0.001345259	0.001345259	7.09811E-09	2.11456E-07
Placer (LT)	2045	T6 Public	Aggregate	20	Diesel	1470.039507	0.005849786	0.231069739	0.276%	0.00%	0.028942349	4.25464E-05	4.25464E-05	1.69307E-10	6.6877E-09
Placer (LT)	2045	T6 Public	Aggregate	25	Diesel	1304.530456	0.004373934	0.205054021	9.798%	0.00%	1.027644781	0.001340594	0.001340594	4.49485E-09	2.10723E-07
Placer (LT)	2045	T6 Public	Aggregate	30	Diesel	1180.434612	0.003386669	0.185547883	3.091%	0.00%	0.324225299	0.000382727	0.000382727	1.09804E-09	6.01593E-08
Placer (LT)	2045	T6 Public	Aggregate	35	Diesel	1083.829184	0.002640245	0.170362855	29.832%	0.00%	3.128941514	0.003391238	0.003391238	8.26117E-09	5.33055E-07
Placer (LT)	2045	T6 Public	Aggregate	40	Diesel	1012.801722	0.002079153	0.159198327	12.574%	0.00%	1.318836959	0.00133572	0.00133572	2.74206E-09	2.09957E-07
Placer (LT)	2045	T6 Public	Aggregate	45	Diesel	966.2310898	0.00166249	0.151878072	18.067%	0.00%	1.894986908	0.001830995	0.001830995	3.1504E-09	2.87807E-07
Placer (LT)	2045	T6 Public	Aggregate	50	Diesel	943.409112	0.001360112	0.148290775	10.102%	0.00%	1.059558405	0.000999597	0.000999597	1.44112E-09	1.57123E-07
Placer (LT)	2045	T6 Public	Aggregate	55	Diesel	943.8626885	0.001149804	0.148362071	8.803%	0.00%	0.923328748	0.000871496	0.000871496	1.06165E-09	1.36987E-07
Placer (LT)	2045	T6 Public	Aggregate	60	Diesel	970.9647257	0.001087733	0.152622133	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	65	Diesel	1021.61182	0.001124447	0.160583151	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	70	Diesel	1021.61182	0.001152948	0.160583151	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	75	Diesel	1021.61182	0.001188472	0.160583151	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	5	Diesel	1876.622778	0.001930302	0.294978967	0.002%	0.01%	0.000515078	9.66607E-07	9.66607E-07	9.94256E-13	1.51937E-10
Placer (LT)	2045	T6 utility	Aggregate	10	Diesel	1551.567996	0.001211283	0.243884882	0.004%	0.01%	0.001242365	1.92761E-06	1.92761E-06	1.50485E-12	3.02994E-10
Placer (LT)	2045	T6 utility	Aggregate	15	Diesel	1220.954123	0.000673406	0.191916985	7.450%	0.01%	2.179957197	0.002661628	0.002661628	1.468E-09	4.18371E-07
Placer (LT)	2045	T6 utility	Aggregate	20	Diesel	1042.67563	0.000457439	0.163894089	0.276%	0.01%	0.080740571	8.41862E-05	8.41862E-05	3.69339E-11	1.32329E-08
Placer (LT)	2045	T6 utility	Aggregate	25	Diesel	909.9264319	0.000359234	0.143027764	9.798%	0.01%	2.866824154	0.002608599	0.002608599	1.02986E-09	4.10035E-07
Placer (LT)	2045	T6 utility	Aggregate	30	Diesel	799.4039763	0.000290548	0.125655173	3.091%	0.01%	0.904492424	0.000723055	0.000723055	2.62799E-10	1.13654E-07
Placer (LT)	2045	T6 utility	Aggregate	35	Diesel	714.5044644	0.000239285	0.112310152	29.832%	0.01%	8.728818827	0.00623678	0.00623678	2.08867E-09	9.80335E-07
Placer (LT)	2045	T6 utility	Aggregate	40	Diesel	655.2278961	0.000205443	0.102992701	12.574%	0.01%	3.679163969	0.002410691	0.002410691	7.55857E-10	3.78927E-07
Placer (LT)	2045	T6 utility	Aggregate	45	Diesel	621.5742726	0.000189022	0.09770282	18.067%	0.01%	5.286451448	0.003285922	0.003285922	9.99257E-10	5.16501E-07
Placer (LT)	2045	T6 utility	Aggregate	50	Diesel	613.5435927	0.000190023	0.096440509	10.102%	0.01%	2.955853701	0.001813545	0.001813545	5.61681E-10	2.85064E-07
Placer (LT)	2045	T6 utility	Aggregate	55	Diesel	631.1358575	0.000208446	0.099205768	8.803%	0.01%	2.575813362	0.001625688	0.001625688	5.36919E-10	2.55536E-07
Placer (LT)	2045	T6 utility	Aggregate	60	Diesel	674.351067	0.000244291	0.105998597	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	65	Diesel	743.1892201	0.000297557	0.116818996	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	70	Diesel	743.1892201	0.000368244	0.116818996	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.01%	0	0	0	0	0
Placer (LT)	2045	T6TS	Aggregate	5	Gasoline	3131.326083	0.016134846	0.016499756	0.002%	0.32%	0.025776454	8.07145E-05	8.07145E-05	4.15899E-10	4.25305E-10
Placer (LT)	2045	T6TS	Aggregate	10	Gasoline	2541.95513	0.010149358	0.014341216	0.004%	0.32%	0.06217265	0.00015804	0.00015804	6.31012E-10	8.91631E-10
Placer (LT)	2045	T6TS	Aggregate	15	Gasoline	2078.796582	0.006771241	0.012576754	7.450%	0.32%	109.0933509	0.226782885	0.226782885	7.38697E-07	1.37204E-06
Placer (LT)	2045	T6TS	Aggregate	20	Gasoline	1727.961753	0.004740298	0.011289207	0.276%	0.32%	4.040565299	0.006981942	0.006981942	1.91535E-08	4.56148E-08
Placer (LT)	2045	T6TS	Aggregate	25	Gasoline	1476.966144	0.003500633	0.01029502	9.798%	0.32%	143.4667863	0.211895586	0.211895586	5.02225E-07	1.47699E-06
Placer (LT)	2045	T6TS	Aggregate	30	Gasoline	1310.553495	0.002726431	0.009546502	3.091%	0.32%	45.26424169	0.05932121	0.05932121	1.2341E-07	4.32115E-07
Placer (LT)	2045	T6TS	Aggregate	35	Gasoline	1214.855682	0.002234892	0.009022572	29.832%	0.32%	436.8232994	0.530677267	0.530677267	9.76253E-07	3.94127E-06
Placer (LT)	2045	T6TS	Aggregate	40	Gasoline	1176.007418	0.0019329	0.008668588	12.574%	0.32%	184.1193609	0.216525734	0.216525734	3.55884E-07	1.59605E-06
Placer (LT)	2045	T6TS	Aggregate	45	Gasoline	1180.144628	0.001773137	0.008388656	18.067%	0.32%	264.5541406	0.312212148	0.312212148	4.69091E-07	2.21925E-06
Placer (LT)	2045	T6TS	Aggregate	50	Gasoline	1214.784766	0.001701577	0.008358858	10.102%	0.32%	147.9221636	0.179693591	0.179693591	2.51701E-07	1.23646E-06
Placer (LT)	2045	T6TS	Aggregate	55	Gasoline	1264.678704	0.001719501	0.008484614	8.803%	0.32%	128.9034993	0.16302151	0.16302151	2.2165E-07	1.0937E-06
Placer (LT)	2045	T6TS	Aggregate	60	Gasoline	1315.963575	0.001842417	0.008675848	0.000%	0.32%	0	0	0	0	0
Placer (LT)	2045	T6TS	Aggregate	65	Gasoline	1356.163468	0.002112638	0.008842473	0.000%	0.32%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	5	Diesel	2342.140543	0.005738859	0.368151877	0.002%	0.31%	0.024587586	5.75876E-05	5.75876E-05	1.41105E-10	9.05197E-09
Placer (LT)	2045	T7 CAIRP	Aggregate	10	Diesel	1936.4522	0.003601187	0.304383319	0.004%	0.31%	0.059305109	0.000114842	0.000114842	2.13569E-10	1.80515E-08
Placer (LT)	2045	T7 CAIRP	Aggregate	15	Diesel	1523.825772	0.00200206	0.239524191	7.450%	0.31%	104.0617226	0.158571935	0.158571935	2.08338E-07	2.49253E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	20	Diesel	1301.307806	0.001359983	0.204547465	0.276%	0.31%	3.854205429	0.005015508	0.005015508	5.24166E-09	7.88368E-07
Placer (LT)	2045	T7 CAIRP	Aggregate	25	Diesel	1135.61786	0.001068015	0.178503313	9.798%	0.31%	136.8497786	0.155409053	0.155409053	1.46158E-07	2.44281E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	30	Diesel	997.6652617	0.000863811	0.156819086	3.091%	0.31%	43.17655405	0.043075748	0.043075748	3.72964E-08	6.77091E-06
Placer (LT)	2045	T7 CAIRP	Aggregate	35	Diesel	891.6888133	0.000711402	0.140161064	29.832%	0.31%	416.6760359	0.37154536	0.37154536	2.96424E-07	5.84018E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	40	Diesel	817.6607518	0.000610788	0.128524884	12.574%	0.31%	175.6273659	0.143603604	0.143603604	1.07271E-07	2.25725E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	45	Diesel	775.6578265	0.00056197	0.121922609	18.067%	0.31%	252.3523145	0.195739048	0.195739048	1.41814E-07	3.07675E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	50	Diesel	765.5978203	0.000564946	0.120341316	10.102%	0.31%	141.0996639	0.108025595	0.108025595	7.97137E-08	1.69801E-05

Placer (LT)	2045	T7 CAIRP	Aggregate	55	Diesel	787.5016854	0.000619718	0.123784298	8.803%	0.31%	122.9581828	0.096829776	0.096829776	7.61994E-08	1.52203E-05
Placer (LT)	2045	T7 CAIRP	Aggregate	60	Diesel	841.361472	0.000726285	0.132250307	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	65	Diesel	927.2481454	0.000884647	0.145750496	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	70	Diesel	927.2481454	0.00109446	0.145750496	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	75	Diesel	927.2481454	0.001355983	0.145750496	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	80	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	85	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP	Aggregate	90	Diesel	0	0	0	0.000%	0.31%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	5	Diesel	2596.100059	0.005779113	0.408070776	0.002%	0.06%	0.004430293	1.15015E-05	1.15015E-05	2.56032E-11	1.80787E-09
Placer (LT)	2045	T7 CAIRP construction	Aggregate	10	Diesel	2146.422718	0.003626446	0.337387761	0.004%	0.06%	0.01068584	2.29363E-05	2.29363E-05	3.87516E-11	3.60527E-09
Placer (LT)	2045	T7 CAIRP construction	Aggregate	15	Diesel	1689.054992	0.002016103	0.265495923	7.450%	0.06%	18.75027222	0.031670241	0.031670241	3.78025E-08	4.97812E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	20	Diesel	1442.426415	0.001369523	0.226729345	0.276%	0.06%	0.694466699	0.001001717	0.001001717	9.51088E-10	1.57456E-07
Placer (LT)	2045	T7 CAIRP construction	Aggregate	25	Diesel	1258.782581	0.001075506	0.197863092	9.798%	0.06%	24.65815997	0.031039262	0.031039262	2.652E-08	4.87894E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	30	Diesel	1105.886987	0.00086987	0.173830034	3.091%	0.06%	7.779730354	0.008603503	0.008603503	6.76735E-09	1.35235E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	35	Diesel	988.4379022	0.000716392	0.155368673	29.832%	0.06%	75.07841411	0.07421035	0.07421035	5.37856E-08	1.16648E-05
Placer (LT)	2045	T7 CAIRP construction	Aggregate	40	Diesel	906.435326	0.000615073	0.14247901	12.574%	0.06%	31.64526627	0.028684387	0.028684387	1.94641E-08	4.50879E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	45	Diesel	859.8792599	0.000565912	0.135161045	18.067%	0.06%	45.46988531	0.039098611	0.039098611	2.57319E-08	6.14576E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	50	Diesel	848.7697025	0.000568909	0.133414777	10.102%	0.06%	25.42392191	0.021579055	0.021579055	1.44639E-08	3.39193E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	55	Diesel	873.1066551	0.000624065	0.137240207	8.803%	0.06%	22.15511469	0.019343778	0.019343778	1.38262E-08	3.04057E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	60	Diesel	932.8901178	0.000731379	0.146637335	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	65	Diesel	1028.120089	0.000890852	0.161606161	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	70	Diesel	1028.120089	0.001102184	0.161606161	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	75	Diesel	1028.120089	0.0013656	0.161606161	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	80	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	85	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 CAIRP construction	Aggregate	90	Diesel	0	0	0	0.000%	0.06%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	5	Diesel	2342.835492	0.005390755	0.368261113	0.002%	0.38%	0.030376968	7.11682E-05	7.11682E-05	1.63755E-10	1.11867E-08
Placer (LT)	2045	T7 NNOOS	Aggregate	10	Diesel	1937.026775	0.003382748	0.304473634	0.004%	0.38%	0.073269063	0.000141924	0.000141924	2.47851E-10	2.23085E-08
Placer (LT)	2045	T7 NNOOS	Aggregate	15	Diesel	1524.277914	0.00188062	0.239595261	7.450%	0.38%	128.5640482	0.195967339	0.195967339	2.4178E-07	3.08033E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	20	Diesel	1301.696743	0.00127749	0.204608601	0.276%	0.38%	4.761714874	0.006198309	0.006198309	6.08304E-09	9.74288E-07
Placer (LT)	2045	T7 NNOOS	Aggregate	25	Diesel	1135.959604	0.001003232	0.178557031	9.798%	0.38%	169.0723648	0.192059377	0.192059377	1.69619E-07	3.01891E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	30	Diesel	997.9685873	0.000811414	0.156866764	3.091%	0.38%	53.34288569	0.053234524	0.053234524	4.32832E-08	8.36773E-06
Placer (LT)	2045	T7 NNOOS	Aggregate	35	Diesel	891.9637305	0.00066825	0.140204277	29.832%	0.38%	514.7863845	0.459170784	0.459170784	3.44006E-07	7.21753E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	40	Diesel	817.9223278	0.00057374	0.128566	12.574%	0.38%	216.9805051	0.1774732	0.1774732	1.2449E-07	2.78963E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	45	Diesel	775.9071467	0.000527882	0.121961798	18.067%	0.38%	311.7710749	0.241905405	0.241905405	1.64578E-07	3.80242E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	50	Diesel	765.8509479	0.000530678	0.120381104	10.102%	0.38%	174.3229262	0.133505378	0.133505378	9.25094E-08	2.09852E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	55	Diesel	787.770867	0.000582128	0.12382661	8.803%	0.38%	151.9098602	0.119670162	0.119670162	8.84309E-08	1.88105E-05
Placer (LT)	2045	T7 NNOOS	Aggregate	60	Diesel	841.6604022	0.00068223	0.132297294	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	65	Diesel	927.5775906	0.000830987	0.14580228	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	70	Diesel	927.5775906	0.001028128	0.14580228	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	75	Diesel	927.5775906	0.001273856	0.14580228	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NNOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.38%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	5	Diesel	2343.42295	0.005746	0.368353454	0.002%	0.12%	0.009401407	2.20315E-05	2.20315E-05	5.40205E-11	3.46304E-09
Placer (LT)	2045	T7 NOOS	Aggregate	10	Diesel	1937.512478	0.003605667	0.30454998	0.004%	0.12%	0.022676137	4.39353E-05	4.39353E-05	8.17626E-11	6.90602E-09
Placer (LT)	2045	T7 NOOS	Aggregate	15	Diesel	1524.660122	0.002004551	0.239655339	7.450%	0.12%	39.78945279	0.060665392	0.060665392	7.976E-08	9.53575E-06
Placer (LT)	2045	T7 NOOS	Aggregate	20	Diesel	1302.01854	0.001361676	0.204659183	0.276%	0.12%	1.473709267	0.001918797	0.001918797	2.00671E-09	3.01608E-07
Placer (LT)	2045	T7 NOOS	Aggregate	25	Diesel	1136.236632	0.001069344	0.178600575	9.798%	0.12%	52.32642387	0.0594552	0.0594552	5.59549E-08	9.34553E-06
Placer (LT)	2045	T7 NOOS	Aggregate	30	Diesel	998.2069124	0.000864886	0.156904226	3.091%	0.12%	16.50915837	0.016479556	0.016479556	1.42785E-08	2.59036E-06
Placer (LT)	2045	T7 NOOS	Aggregate	35	Diesel	892.1705225	0.000712287	0.140236782	29.832%	0.12%	159.3219009	0.142142304	0.142142304	1.13483E-07	2.23428E-05
Placer (LT)	2045	T7 NOOS	Aggregate	40	Diesel	818.0964876	0.000611548	0.128593375	12.574%	0.12%	67.15357587	0.054938105	0.054938105	4.10677E-08	8.6355E-06
Placer (LT)	2045	T7 NOOS	Aggregate	45	Diesel	776.0704335	0.000562669	0.121987465	18.067%	0.12%	96.49043137	0.074883371	0.074883371	5.42922E-08	1.17706E-05
Placer (LT)	2045	T7 NOOS	Aggregate	50	Diesel	766.0006342	0.000565649	0.120404633	10.102%	0.12%	53.95142687	0.041326827	0.041326827	3.05176E-08	6.496E-06
Placer (LT)	2045	T7 NOOS	Aggregate	55	Diesel	787.910465	0.000620489	0.123848553	8.803%	0.12%	47.01477822	0.037043436	0.037043436	2.91722E-08	5.82271E-06
Placer (LT)	2045	T7 NOOS	Aggregate	60	Diesel	841.7910566	0.000727189	0.132317831	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	65	Diesel	927.7215823	0.000885748	0.145824913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	70	Diesel	927.7215823	0.001095772	0.145824913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	75	Diesel	927.7215823	0.001357559	0.145824913	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	80	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	85	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 NOOS	Aggregate	90	Diesel	0	0	0	0.000%	0.12%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	5	Diesel	2721.053489	0.005674948	0.427711716	0.002%	0.14%	0.011465361	3.11979E-05	3.11979E-05	6.50653E-11	4.90387E-09
Placer (LT)	2045	T7 Public	Aggregate	10	Diesel	2258.802443	0.003788019	0.355052288	0.004%	0.14%	0.027654381	6.24658E-05	6.24658E-05	1.04755E-10	9.81875E-09
Placer (LT)	2045	T7 Public	Aggregate	15	Diesel	1781.578661	0.002097692	0.280039355	7.450%	0.14%	48.52469799	0.086450566	0.086450566	1.0179E-07	1.35888E-05
Placer (LT)	2045	T7 Public	Aggregate	20	Diesel	1519.537679	0.00132502	0.238850162	0.276%	0.14%	1.797242538	0.002730978	0.002730978	2.38138E-09	4.29272E-07
Placer (LT)	2045	T7 Public	Aggregate	25	Diesel	1327.992195	0.00102603	0.20874188	9.798%	0.14%	63.81399435	0.084744486	0.084744486	6.54751E-08	1.33207E-05
Placer (LT)	2045	T7 Public	Aggregate	30	Diesel	1170.449195	0.000828864	0.183978314	3.091%	0.14%	20.13352454	0.023565268	0.023565268	1.6688E-08	3.70413E-06
Placer (LT)	2045	T7 Public	Aggregate	35	Diesel	1049.22537	0.000679936	0.164923617	29.832%	0.14%	194.2989055	0.203863341	0.203863341	1.32111E-07	3.20445E-05
Placer (LT)	2045	T7 Public	Aggregate	40	Diesel	964.2515848	0.000577414	0.151566921	12.574%	0.14%	81.89625038	0.078968589	0.078968589	4.7288E-08	1.24128E-05
Placer (LT)	2045	T7 Public	Aggregate	45	Diesel	915.4873127	0.000519947	0.143901857	18.067%	0.14%	117.6736223	0.107728708	0.107728708	6.1184E-08	1.69335E-05
Placer (LT)	2045	T7 Public	Aggregate	50	Diesel	902.9069523	0.00050654	0.141924399	10.102%	0.14%	65.79574514	0.059407436	0.059407436	3.33282E-08	9.33802E-06
Placer (LT)	2045	T7 Public	Aggregate	55	Diesel	926.4934027	0.000536461	0.145631861	8.803%	0.14%	57.33624753	0.053121655	0.053121655	3.07587E-08	8.34998E-06
Placer (LT)	2045	T7 Public	Aggregate	60	Diesel	986.2873244	0.000609262	0.155030633	0.000%	0.14%	0	0	0	0	0

Placer (LT)	2045	T7 Public	Aggregate	65	Diesel	1081.848778	0.000719951	0.170051562	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	70	Diesel	1081.848778	0.000866843	0.170051562	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	75	Diesel	1081.848778	0.001049938	0.170051562	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	80	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	85	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Public	Aggregate	90	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	5	Diesel	4224.959883	0.007949515	0.664104858	0.002%	0.00%	1.62424E-05	6.86235E-08	6.86235E-08	1.29119E-13	1.07867E-11
Placer (LT)	2045	T7 Single	Aggregate	10	Diesel	3495.152393	0.00505732	0.549389283	0.004%	0.00%	3.91766E-05	1.36928E-07	1.36928E-07	1.98129E-13	2.15232E-11
Placer (LT)	2045	T7 Single	Aggregate	15	Diesel	2751.162401	0.002791753	0.432444417	7.450%	0.00%	0.068742528	0.000189122	0.000189122	1.91912E-10	2.97273E-08
Placer (LT)	2045	T7 Single	Aggregate	20	Diesel	2348.837764	0.001853974	0.369204587	0.276%	0.00%	0.002546064	5.98029E-06	5.98029E-06	4.72034E-12	9.40019E-10
Placer (LT)	2045	T7 Single	Aggregate	25	Diesel	2050.161781	0.001455807	0.322256882	9.798%	0.00%	0.090402114	0.000185339	0.000185339	1.31608E-10	2.91327E-08
Placer (LT)	2045	T7 Single	Aggregate	30	Diesel	1801.959159	0.001182476	0.283242886	3.091%	0.00%	0.028522164	5.13958E-05	5.13958E-05	3.37268E-11	8.0787E-09
Placer (LT)	2045	T7 Single	Aggregate	35	Diesel	1611.247248	0.000977207	0.253265629	29.832%	0.00%	0.275253603	0.000443502	0.000443502	2.6898E-10	6.97123E-08
Placer (LT)	2045	T7 Single	Aggregate	40	Diesel	1478.02576	0.000839996	0.232325067	12.574%	0.00%	0.116018348	0.000171478	0.000171478	9.7455E-11	2.6954E-08
Placer (LT)	2045	T7 Single	Aggregate	45	Diesel	1402.29453	0.000770839	0.220421172	18.067%	0.00%	0.166702373	0.000233766	0.000233766	1.28501E-10	3.67447E-08
Placer (LT)	2045	T7 Single	Aggregate	50	Diesel	1384.05345	0.000769732	0.217553928	10.102%	0.00%	0.093209562	0.000129007	0.000129007	7.17464E-11	2.02781E-08
Placer (LT)	2045	T7 Single	Aggregate	55	Diesel	1423.302451	0.000836674	0.223723325	8.803%	0.00%	0.081225412	0.000115608	0.000115608	6.79592E-11	1.8172E-08
Placer (LT)	2045	T7 Single	Aggregate	60	Diesel	1520.015848	0.000972644	0.238925324	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	65	Diesel	1674.087549	0.001176651	0.26314325	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	70	Diesel	1674.087549	0.001189098	0.26314325	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	75	Diesel	1674.087549	0.001204613	0.26314325	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 Single	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	5	Diesel	2727.225301	0.005064463	0.428681839	0.002%	0.14%	0.010990742	2.99742E-05	2.99742E-05	5.56622E-11	4.71153E-09
Placer (LT)	2045	T7 single construction	Aggregate	10	Diesel	2254.948912	0.003182726	0.354446567	0.004%	0.14%	0.026509604	5.97778E-05	5.97778E-05	8.43728E-11	9.39624E-09
Placer (LT)	2045	T7 single construction	Aggregate	15	Diesel	1774.507156	0.00176908	0.278927813	7.450%	0.14%	46.51597665	0.082542933	0.082542933	8.22905E-08	1.29746E-05
Placer (LT)	2045	T7 single construction	Aggregate	20	Diesel	1515.377341	0.001199511	0.238196215	0.276%	0.14%	1.722844147	0.002610759	0.002610759	2.06657E-09	4.10375E-07
Placer (LT)	2045	T7 single construction	Aggregate	25	Diesel	1322.469647	0.000941717	0.207873812	9.798%	0.14%	61.17235951	0.080898589	0.080898589	5.76071E-08	1.27161E-05
Placer (LT)	2045	T7 single construction	Aggregate	30	Diesel	1161.885462	0.000761679	0.182632214	3.091%	0.14%	19.30008008	0.022424482	0.022424482	1.47005E-08	3.52482E-06
Placer (LT)	2045	T7 single construction	Aggregate	35	Diesel	1038.527703	0.000627265	0.163242093	29.832%	0.14%	186.2557362	0.193431742	0.193431742	1.16832E-07	3.04048E-05
Placer (LT)	2045	T7 single construction	Aggregate	40	Diesel	952.3955114	0.000538442	0.149703311	12.574%	0.14%	78.5060851	0.074768843	0.074768843	4.2271E-08	1.17526E-05
Placer (LT)	2045	T7 single construction	Aggregate	45	Diesel	903.4883843	0.000495186	0.142015792	18.067%	0.14%	112.8024222	0.101915678	0.101915678	5.58582E-08	1.60197E-05
Placer (LT)	2045	T7 single construction	Aggregate	50	Diesel	891.8060022	0.000497478	0.140179484	10.102%	0.14%	63.07207403	0.056248054	0.056248054	3.1377E-08	8.84141E-06
Placer (LT)	2045	T7 single construction	Aggregate	55	Diesel	917.3481539	0.000545307	0.144194355	8.803%	0.14%	54.96276456	0.050419991	0.050419991	2.99716E-08	7.92532E-06
Placer (LT)	2045	T7 single construction	Aggregate	60	Diesel	980.1153352	0.000638663	0.154060482	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	65	Diesel	1080.102036	0.000777446	0.169776999	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	70	Diesel	1080.102036	0.000956397	0.169776999	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	75	Diesel	1080.102036	0.001179451	0.169776999	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	80	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	85	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 single construction	Aggregate	90	Diesel	0	0	0	0.000%	0.14%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	5	Diesel	2431.743946	0.005890168	0.382236284	0.002%	0.00%	0.000170015	4.13433E-07	4.13433E-07	1.00142E-12	6.4986E-11
Placer (LT)	2045	T7 tractor	Aggregate	10	Diesel	2010.835851	0.003711488	0.316075393	0.004%	0.00%	0.000410076	8.24595E-07	8.24595E-07	1.52199E-12	1.29615E-10
Placer (LT)	2045	T7 tractor	Aggregate	15	Diesel	1582.517796	0.002066005	0.24874976	7.450%	0.00%	0.719552994	0.001138705	0.001138705	1.4866E-09	1.78989E-07
Placer (LT)	2045	T7 tractor	Aggregate	20	Diesel	1351.270183	0.001399375	0.212400855	0.276%	0.00%	0.026650578	3.60121E-05	3.60121E-05	3.72942E-11	5.66061E-09
Placer (LT)	2045	T7 tractor	Aggregate	25	Diesel	1179.18592	0.001097801	0.185351606	9.798%	0.00%	0.946271746	0.00111583	0.00111583	1.03882E-09	1.75393E-07
Placer (LT)	2045	T7 tractor	Aggregate	30	Diesel	1035.927128	0.000887381	0.162833318	3.091%	0.00%	0.29855184	0.000309278	0.000309278	2.64929E-10	4.86142E-08
Placer (LT)	2045	T7 tractor	Aggregate	35	Diesel	925.8180278	0.000730255	0.145525701	29.832%	0.00%	2.881179378	0.002667448	0.002667448	2.104E-09	4.19286E-07
Placer (LT)	2045	T7 tractor	Aggregate	40	Diesel	848.594379	0.000626198	0.133387219	12.574%	0.00%	1.21440616	0.001030538	0.001030538	7.60458E-10	1.61986E-07
Placer (LT)	2045	T7 tractor	Aggregate	45	Diesel	804.9711996	0.000575043	0.126530263	18.067%	0.00%	1.744934246	0.001404622	0.001404622	1.00341E-09	2.20787E-07
Placer (LT)	2045	T7 tractor	Aggregate	50	Diesel	794.1786803	0.000576669	0.124833829	10.102%	0.00%	0.975658322	0.000774847	0.000774847	5.62632E-10	1.21795E-07
Placer (LT)	2045	T7 tractor	Aggregate	55	Diesel	816.4124431	0.000630986	0.128328667	8.803%	0.00%	0.850215875	0.000694127	0.000694127	5.36474E-10	1.09107E-07
Placer (LT)	2045	T7 tractor	Aggregate	60	Diesel	871.6064114	0.000738129	0.13700439	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	65	Diesel	960.4093227	0.00089779	0.150962971	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	70	Diesel	960.4093227	0.001105318	0.150962971	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	75	Diesel	960.4093227	0.001363993	0.150962971	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	5	Diesel	2674.686989	0.005965558	0.420423547	0.002%	0.11%	0.009066395	2.42498E-05	2.42498E-05	5.40861E-11	3.81173E-09
Placer (LT)	2045	T7 tractor construction	Aggregate	10	Diesel	2211.420711	0.003744663	0.34760454	0.004%	0.11%	0.02186809	4.83595E-05	4.83595E-05	8.18886E-11	7.60145E-09
Placer (LT)	2045	T7 tractor construction	Aggregate	15	Diesel	1740.215892	0.002082119	0.273537704	7.450%	0.11%	38.37158543	0.066774843	0.066774843	7.98942E-08	1.04961E-05
Placer (LT)	2045	T7 tractor construction	Aggregate	20	Diesel	1486.115499	0.001414117	0.233596661	0.276%	0.11%	1.421194741	0.00211206	0.00211206	2.00974E-09	3.31986E-07
Placer (LT)	2045	T7 tractor construction	Aggregate	25	Diesel	1296.915264	0.001110429	0.203857019	9.798%	0.11%	50.46181093	0.065444693	0.065444693	5.60343E-08	1.0287E-05
Placer (LT)	2045	T7 tractor construction	Aggregate	30	Diesel	1139.397908	0.000898061	0.179097484	3.091%	0.11%	15.92086687	0.018140202	0.018140202	1.42979E-08	2.85139E-06
Placer (LT)	2045	T7 tractor construction	Aggregate	35	Diesel	1018.398125	0.000739553	0.160078003	29.832%	0.11%	153.6445843	0.156471357	0.156471357	1.13628E-07	2.45951E-05
Placer (LT)	2045	T7 tractor construction	Aggregate	40	Diesel	933.9154699	0.000634886	0.146798506	12.574%	0.11%	64.76060847	0.060480934	0.060480934	4.11156E-08	9.50676E-06
Placer (LT)	2045	T7 tractor construction	Aggregate	45	Diesel	885.9496845	0.000584045	0.139258953	18.067%	0.11%	93.05206708	0.082439449	0.082439449	5.43466E-08	1.29583E-05
Placer (LT)	2045	T7 tractor construction	Aggregate	50	Diesel	874.5006029	0.000587018	0.137459317	10.102%	0.11%	52.02890816	0.045499312	0.045499312	3.05419E-08	7.15186E-06
Placer (LT)	2045	T7 tractor construction	Aggregate	55	Diesel	899.5681169	0.000643797	0.141399581	8.803%	0.11%	45.33944179	0.040785916	0.040785916	2.91894E-08	6.41098E-06
Placer (LT)	2045	T7 tractor construction	Aggregate	60	Diesel	961.1529453	0.000754396	0.151079858	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	65	Diesel	1059.254109	0.000918791	0.166499995	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	70	Diesel	1059.254109	0.001134129	0.166499995	0.000%	0.11%	0	0	0	0	0

Placer (LT)	2045	T7 tractor construction	Aggregate	75	Diesel	1059.254109	0.001402538	0.166499995	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	80	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	85	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 tractor construction	Aggregate	90	Diesel	0	0	0	0.000%	0.11%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	5	Diesel	2765.828926	0.00416994	0.434749791	0.002%	0.00%	0.000136797	3.78357E-07	3.78357E-07	5.70435E-13	5.94725E-11
Placer (LT)	2045	T7 utility	Aggregate	10	Diesel	2286.752401	0.002616676	0.359445632	0.004%	0.00%	0.000329954	7.54522E-07	7.54522E-07	8.63382E-13	1.186E-10
Placer (LT)	2045	T7 utility	Aggregate	15	Diesel	1799.482704	0.001454727	0.282853622	7.450%	0.00%	0.578964267	0.001041836	0.001041836	8.42235E-10	1.63762E-07
Placer (LT)	2045	T7 utility	Aggregate	20	Diesel	1536.729945	0.000988184	0.241552547	0.276%	0.00%	0.021443497	3.29529E-05	3.29529E-05	2.11901E-11	5.17973E-09
Placer (LT)	2045	T7 utility	Aggregate	25	Diesel	1341.079771	0.000776036	0.210799064	9.798%	0.00%	0.761385933	0.001021079	0.001021079	5.90863E-10	1.60499E-07
Placer (LT)	2045	T7 utility	Aggregate	30	Diesel	1178.188109	0.000627658	0.185194763	3.091%	0.00%	0.240219759	0.000283024	0.000283024	1.50776E-10	4.44874E-08
Placer (LT)	2045	T7 utility	Aggregate	35	Diesel	1053.06039	0.000516915	0.165526429	29.832%	0.00%	2.318244687	0.002441252	0.002441252	1.19834E-09	3.83731E-07
Placer (LT)	2045	T7 utility	Aggregate	40	Diesel	965.696617	0.000443808	0.15179406	12.574%	0.00%	0.977131327	0.000943612	0.000943612	4.33659E-10	1.48323E-07
Placer (LT)	2045	T7 utility	Aggregate	45	Diesel	916.0967898	0.000408336	0.143997658	18.067%	0.00%	1.404003019	0.001286203	0.001286203	5.73304E-10	2.02173E-07
Placer (LT)	2045	T7 utility	Aggregate	50	Diesel	904.2609073	0.000410498	0.142137222	10.102%	0.00%	0.785030859	0.000709873	0.000709873	3.22254E-10	1.11582E-07
Placer (LT)	2045	T7 utility	Aggregate	55	Diesel	930.188971	0.000450296	0.146212753	8.803%	0.00%	0.684097787	0.00063634	0.00063634	3.08047E-10	1.00024E-07
Placer (LT)	2045	T7 utility	Aggregate	60	Diesel	993.8809808	0.000527729	0.15622425	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	65	Diesel	1095.336935	0.000642798	0.172171713	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	70	Diesel	1095.336935	0.000781845	0.172171713	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	75	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	80	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	85	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7 utility	Aggregate	90	Diesel	0	0	0	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7IS	Aggregate	5	Gasoline	3637.198684	0.484073704	0.265977955	0.002%	0.00%	0.000236717	8.60986E-07	8.60986E-07	1.14588E-10	6.29614E-11
Placer (LT)	2045	T7IS	Aggregate	10	Gasoline	2960.152056	0.306642819	0.228896065	0.004%	0.00%	0.000570959	1.69013E-06	1.69013E-06	1.75081E-10	1.3069E-10
Placer (LT)	2045	T7IS	Aggregate	15	Gasoline	2427.61542	0.2037683	0.20189468	7.450%	0.00%	1.001853129	0.002432114	0.002432114	2.04146E-07	2.02269E-07
Placer (LT)	2045	T7IS	Aggregate	20	Gasoline	2023.272963	0.142046183	0.182363311	0.276%	0.00%	0.037106322	7.50762E-05	7.50762E-05	5.27081E-09	6.76683E-09
Placer (LT)	2045	T7IS	Aggregate	25	Gasoline	1733.397271	0.105113892	0.16575528	9.798%	0.00%	1.31751979	0.002283785	0.002283785	1.3849E-07	2.18386E-07
Placer (LT)	2045	T7IS	Aggregate	30	Gasoline	1540.052182	0.08211586	0.153045775	3.091%	0.00%	0.415681815	0.000640172	0.000640172	3.41341E-08	6.36183E-08
Placer (LT)	2045	T7IS	Aggregate	35	Gasoline	1427.283262	0.06759852	0.143841187	29.832%	0.00%	4.01154411	0.00572561	0.00572561	2.71174E-07	5.77025E-07
Placer (LT)	2045	T7IS	Aggregate	40	Gasoline	1379.274187	0.058598091	0.137700099	12.574%	0.00%	1.6908506	0.002332147	0.002332147	9.90806E-08	2.3283E-07
Placer (LT)	2045	T7IS	Aggregate	45	Gasoline	1380.164749	0.053349621	0.134853497	18.067%	0.00%	2.429519227	0.003353137	0.003353137	1.29614E-07	3.27629E-07
Placer (LT)	2045	T7IS	Aggregate	50	Gasoline	1416.191202	0.051474491	0.133233088	10.102%	0.00%	1.358435516	0.001923804	0.001923804	6.99248E-08	1.80989E-07
Placer (LT)	2045	T7IS	Aggregate	55	Gasoline	1470.03883	0.052663404	0.132822241	8.803%	0.00%	1.183778599	0.001740201	0.001740201	6.23418E-08	1.57232E-07
Placer (LT)	2045	T7IS	Aggregate	60	Gasoline	1525.276449	0.056064407	0.137134188	0.000%	0.00%	0	0	0	0	0
Placer (LT)	2045	T7IS	Aggregate	65	Gasoline	1568.663499	0.063579526	0.141976779	0.000%	0.00%	0	0	0	0	0

SCENARIO	Placer County (LT) 2045 - STREX and IDLEX

Source	EMFAC2017 (v1.0.2) Emission Rates
Region Type	Sub-Area
Region	Placer (LT)
Calendar Year	2045
Season	Annual
Vehicle Classification	EMFAC2011 Categories
Emissions Rate and Vehicle Activity Units	Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Daily Trips	75,761
Daily Vehicles	16,024

SAFE Rule Adjustment Factors	
CO_2	1.1243

Source: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	CO_2 IDLEX	CO_2 STREX	CH_4 IDLEX	CH_4 STREX	N_2O IDLEX	N_2O STREX	Fleet Mix	Vehicle Trips per Day	Vehicles per Day	CO_2 STREX Emissions (tons/day)	CO_2 STREX Emissions Adjusted for SAFE Rule (tons/day)	CO_2 IDLEX Emissions (tons/day)	CO_2 IDLEX Emissions Adjusted for SAFE Rule (tons/day)	CH_4 STREX Emissions (tons/day)	CH_4 IDLEX Emissions (tons/day)	N_2O STREX Emissions (tons/day)	N_2O IDLEX Emissions (tons/day)
Placer (LT)	2045	All Other Buses	Aggregate	Aggregate	Diesel	634.7308389	0	0.002291342	0	0.17602479	0.099770849	0.01%	6.540036265	1.38322103	0	0	0.000877973	0.000877973	0	3.16943E-09	6.52505E-07	2.43481E-07
Placer (LT)	2045	LDA	Aggregate	Aggregate	Gasoline	0	39.77324881	0	0.024035538	0.003448272	0	52.54%	39808.26246	8419.467962	1.583303927	1.780108606	0	0	0.000956813	0	0	2.90326E-05
Placer (LT)	2045	LDA	Aggregate	Aggregate	Diesel	0	0	0	0	0.024196508	0	0.66%	499.019564	105.5428942	0	0	0	0	0	0	0	2.55377E-06
Placer (LT)	2045	LDA	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	3.61%	2735.125123	578.4803689	0	0	0	0	0	0	0	0
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Gasoline	0	46.26605731	0	0.025377365	0.003567836	0	5.72%	4330.724007	915.9503526	0.200365525	0.22527096	0	0	0.000109902	0	0	3.26796E-06
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Diesel	0	0	0	0	0.045514185	0	0.00%	0.598256368	0.126531529	0	0	0	0	0	0	0	5.75898E-09
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.23%	176.797151	37.39268827	0	0	0	0	0	0	0	0
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Gasoline	0	47.82267031	0	0.033151333	0.00342398	0	18.09%	13701.68091	2897.912552	0.655250969	0.736698664	0	0	0.000454229	0	0	9.92239E-06
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Diesel	0	0	0	0	0.032311676	0	0.19%	143.3810992	30.32517615	0	0	0	0	0	0	0	9.79857E-07
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.59%	449.1641658	94.99845183	0	0	0	0	0	0	0	0
Placer (LT)	2045	LHD1	Aggregate	Aggregate	Gasoline	101.5044183	16.28678683	0.090964629	0.013224607	0.009867694	0.002470016	0.97%	732.9011046	155.0089602	0.011936604	0.011936604	0.015734094	0.015734094	9.69233E-06	1.41003E-05	1.81028E-06	1.52958E-06
Placer (LT)	2045	LHD1	Aggregate	Aggregate	Diesel	110.2061831	0	0.005098128	0	0.069901338	0.017322877	1.02%	772.9823431	163.4861627	0	0	0.018017186	0.018017186	0	8.33473E-07	1.33903E-05	1.14279E-05
Placer (LT)	2045	LHD2	Aggregate	Aggregate	Gasoline	115.2753036	18.32276558	0.089520072	0.010812809	0.010775657	0.002434355	0.15%	113.1175597	23.92442988	0.002072627	0.002072627	0.002757896	0.002757896	1.22312E-06	2.14172E-06	2.75368E-07	2.57801E-07
Placer (LT)	2045	LHD2	Aggregate	Aggregate	Diesel	185.1502254	0	0.005098128	0	0.080686694	0.029103037	0.43%	329.5005573	69.68953716	0	0	0.012903034	0.012903034	0	3.55286E-07	9.58947E-06	5.62302E-06
Placer (LT)	2045	MCY	Aggregate	Aggregate	Gasoline	0	67.02812214	0	0.324393785	0.069974531	0	0.60%	452.1645039	95.63302488	0.030307738	0.030307738	0	0	0.000146679	0	0	6.69188E-06
Placer (LT)	2045	MDV	Aggregate	Aggregate	Gasoline	0	58.76884118	0	0.037367842	0.003586234	0	11.14%	8440.310059	1785.129914	0.496027241	0.557683428	0	0	0.000315396	0	0	6.40189E-06
Placer (LT)	2045	MDV	Aggregate	Aggregate	Diesel	0	0	0	0	0.04177572	0	0.41%	310.3432049	65.63774728	0	0	0	0	0	0	0	2.74206E-06
Placer (LT)	2045	MDV	Aggregate	Aggregate	Electricity	0	0	0	0	0	0	0.43%	322.0830974	68.12074058	0	0	0	0	0	0	0	0
Placer (LT)	2045	MH	Aggregate	Aggregate	Gasoline	0	20.95646457	0	0.03046815	0.019306007	0	0.05%	34.71128111	7.341453788	0.000727426	0.000727426	0	0	1.05759E-06	0	0	1.41734E-07
Placer (LT)	2045	MH	Aggregate	Aggregate	Diesel	0	0	0	0	0.135517489	0	0.02%	16.85728507	3.565324453	0	0	0	0	0	0	0	4.83164E-07
Placer (LT)	2045	Motor Coach	Aggregate	Aggregate	Diesel	8369.936276	0	0.18555332	0	0.18415915	1.315637424	0.11%	86.47700834	18.28993169	0	0	0.153085563	0.153085563	0	3.39376E-06	0.000113772	3.36826E-06
Placer (LT)	2045	OBUS	Aggregate	Aggregate	Gasoline	331.8202506	23.6123993	0.201837559	0.030054715	0.026778725	0.005298588	0.05%	36.03376336	7.621159465	0.000850844	0.000850844	0.002528855	0.002528855	1.08298E-06	1.53824E-06	1.90928E-07	2.04085E-07
Placer (LT)	2045	PTO	Aggregate	Aggregate	Diesel	0	0	0	0	0.369204587	0	0.00%	0.030561561	0.006463786	0	0	0	0	0	0	0	2.38646E-09
Placer (LT)	2045	SBUS	Aggregate	Aggregate	Gasoline	2130.603884	47.38378836	2.507308159	0.072415549	0.013832471	0.09892262	0.03%	19.42887008	4.109216003	0.000920613	0.000920613	0.008755112	0.008755112	1.40695E-06	1.03031E-05	1.92195E-06	5.68406E-08
Placer (LT)	2045	SBUS	Aggregate	Aggregate	Diesel	3235.326818	0	0.012433243	0	0.152428353	0.508548321	0.01%	4.114094921	0.87013319	0	0	0.002815165	0.002815165	0	1.08186E-08	2.09222E-06	1.32633E-07
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	619.0998908	0	0.002291342	0	0.149557916	0.097313881	0.00%	0.018773982	0.003970707	0	0	2.45826E-06	2.45826E-06	0	9.09825E-12	1.82697E-09	5.93851E-10
Placer (LT)	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	620.4156756	0	0.002291342	0	0.154819456	0.097520704	0.00%	0.002562271	0.000541922	0	0	3.36217E-07	3.36217E-07	0	1.24173E-12	2.49874E-10	8.39E-11
Placer (LT)	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	515.4340147	0	0.002291082	0	0.156522844	0.081019049	0.08%	58.44528102	12.36120696	0	0	0.006371387	0.006371387	0	2.83205E-08	4.73518E-06	1.93481E-06
Placer (LT)	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	489.0227659	0	0.002291344	0	0.14737519	0.076867569	0.40%	305.5239791	64.61847856	0	0	0.031599907	0.031599907	0	1.48063E-07	2.34849E-05	9.52316E-06
Placer (LT)	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	505.2093781	0	0.002290456	0	0.117841782	0.079411879	0.38%	284.758225	60.22651089	0	0	0.030426998	0.030426998	0	1.37946E-07	2.26132E-05	7.0972E-06
Placer (LT)	2045	T6 instate small	Aggregate	Aggregate	Diesel	488.1802239	0	0.002291446	0	0.125779537	0.076735133	0.51%	383.4347513	81.0966469	0	0	0.039589779	0.039589779	0	1.85829E-07	2.94229E-05	1.02003E-05
Placer (LT)	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	618.5321788	0	0.002291342	0	0.149363732	0.097224845	0.00%	0.009511696	0.002011729	0	0	1.24432E-06	1.24432E-06	0	4.60956E-12	9.24771E-10	3.00479E-10
Placer (LT)	2045	T6 OOS small	Aggregate	Aggregate	Diesel	622.7243793	0	0.002291342	0	0.156037991	0.0978836	0.00%	0.007806252	0.001651026	0	0	1.02813E-06	1.02813E-06	0	3.78307E-12	7.64104E-10	2.57623E-10
Placer (LT)	2045	T6 Public	Aggregate	Aggregate	Diesel	3640.256701	0	0.012987338	0	0.190707222	0.57219766	0.00%	1.749616738	0.370044839	0	0	0.001347058	0.001347058	0	4.8059E-09	1.00113E-06	7.05702E-08
Placer (LT)	2045	T6 utility	Aggregate	Aggregate	Diesel	1320.495094	0	0.006297357	0	0.123570042	0.20756344	0.01%	4.880911789	1.032315351	0	0	0.001363167	0.001363167	0	6.50086E-09	1.0131E-06	1.27563E-07
Placer (LT)	2045	T6TS	Aggregate	Aggregate	Gasoline	437.7313084	30.61408973	0.286815484	0.036087754	0.009467116	0.008621515	0.32%	244.2593934	51.66098719	0.007477779	0.007477779	0.022613632	0.022613632	8.81477E-06	1.48172E-05	2.10589E-06	4.89081E-07
Placer (LT)	2045	T7 CAIRP	Aggregate	Aggregate	Diesel	19441.72787	0	0.484642799	0	0.147769624	3.055968879	0.31%	232.9936061	49.2782674	0	0	0.958054665	0.958054665	0	2.38824E-05	0.000712021	7.28183E-06
Placer (LT)	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	2964.820719	0	0.074055979	0	0.200525229	0.466028529	0.06%	41.98175306	8.879162341	0	0	0.026325124	0.026325124	0	6.57555E-07	1.95647E-05	1.7805E-06
Placer (LT)	2045	T7 NNOOS	Aggregate	Aggregate	Diesel	24162.62324	0	0.60150702	0	0.147820308	3.798027888	0.38%	287.8541739	60.88130568	0	0	1.471052051	1.471052051	0	3.66205E-05	0.001093278	8.99949E-06
Placer (LT)	2045	T7 NOOS	Aggregate	Aggregate	Diesel	24148.29032	0	0.60150702	0	0.14784622	3.795774953	0.12%	89.0883589	18.84223368	0	0	0.455007729	0.455007729	0	1.13337E-05	0.000338159	2.78575E-06
Placer (LT)	2045	T7 Public	Aggregate	Aggregate	Diesel	2363.436616	0	0.055290027	0	0.189918737	0.371499323	0.14%	108.6465233	22.9787955	0	0	0.054308927	0.054308927	0	1.2705E-06	4.03621E-05	4.3641E-06
Placer (LT)	2045	T7 Single	Aggregate	Aggregate	Diesel	6103.017593	0	0.100786841	0	0.274042522	0.959309376	0.00%	0.15391413	0.032552918	0	0	0.000198671	0.000198671	0	3.28091E-09	1.47651E-07	8.92088E-09
Placer (LT)	2045	T7 single construction	Aggregate	Aggregate	Diesel	3088.966624	0	0.074041099	0	0.210669447	0.485542537	0.14%	104.1490076	22.02756862	0	0	0.068042424	0.068042424	0	1.63095E-06	5.05688E-05	4.64054E-06
Placer (LT)	2045	T7 tractor	Aggregate	Aggregate	Diesel	3630.161991	0	0.087224432	0	0.145629323	0.570610912	0.00%	1.611075069	0.340743205	0	0	0.001236953	0.001236953	0	2.97211E-08	9.19297E-07	4.96222E-08
Placer (LT)	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	3026.941921	0	0.074053764	0	0.206598946	0.475793117	0.11%	85.91376192	18.17080479	0	0	0.055001971	0.055001971	0	1.34562E-06	4.08772E-05	3.75407E-06
Placer (LT)	2045	T7 utility	Aggregate	Aggregate	Diesel	1245.546788	0	0.029513944	0	0.181602022	0.19578261	0.00%	1.296297706	0.274167631	0	0	0.000341489	0.000341489	0	8.09177E-09	2.53793E-07	4.97894E-08
Placer (LT)	2045	T7IS	Aggregate	Aggregate	Gasoline	0	35.31061939	0	0.000149561	0.143949097	0	0.00%	2.243143468	0.474425996	7.92068E-05	7.92068E-05	0	0	3.35488E-10	0	0	6.82932E-08

Source: EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: Placer (LT)
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Fleet Mix (Population)	VMT	Fleet Mix (VMT)	Trips	Fleet Mix (Trips)
Placer (LT)	2045	All Other Buses	Aggregate	Aggregate	Diesel	2.635448294	0.02%	18735.72084	0.01%	6464.227575	0.02%
Placer (LT)	2045	LDA	Aggregate	Aggregate	Gasoline	7968.039665	50.75%	114041644.8	52.54%	12865507.23	48.80%
Placer (LT)	2045	LDA	Aggregate	Aggregate	Diesel	100.366015	0.64%	1429577.89	0.66%	161594.0852	0.61%
Placer (LT)	2045	LDA	Aggregate	Aggregate	Electricity	517.5263452	3.30%	7835513.246	3.61%	843447.0856	3.20%
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Gasoline	893.5020567	5.69%	12406542.22	5.72%	1416323.438	5.37%
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Diesel	0.119787382	0.00%	1713.868831	0.00%	192.4280422	0.00%
Placer (LT)	2045	LDT1	Aggregate	Aggregate	Electricity	34.04915943	0.22%	506483.746	0.23%	55147.05625	0.21%
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Gasoline	2825.301583	17.99%	39252208.73	18.09%	4476583.719	16.98%
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Diesel	29.54159144	0.19%	410754.3354	0.19%	46907.90417	0.18%
Placer (LT)	2045	LDT2	Aggregate	Aggregate	Electricity	124.0447935	0.79%	1286753.48	0.59%	201414.2191	0.76%
Placer (LT)	2045	LHD1	Aggregate	Aggregate	Gasoline	159.1884477	1.01%	2099595.468	0.97%	775536.3124	2.94%
Placer (LT)	2045	LHD1	Aggregate	Aggregate	Diesel	170.896442	1.09%	2214419.127	1.02%	702939.5566	2.67%
Placer (LT)	2045	LHD2	Aggregate	Aggregate	Gasoline	24.31735371	0.15%	324056.2642	0.15%	118469.5944	0.45%
Placer (LT)	2045	LHD2	Aggregate	Aggregate	Diesel	80.08939382	0.51%	943944.3772	0.43%	329427.5897	1.25%
Placer (LT)	2045	MCY	Aggregate	Aggregate	Gasoline	442.9783062	2.82%	1295348.768	0.60%	307426.9445	1.17%
Placer (LT)	2045	MDV	Aggregate	Aggregate	Gasoline	1805.170671	11.50%	24179574.34	11.14%	2819958.996	10.70%
Placer (LT)	2045	MDV	Aggregate	Aggregate	Diesel	65.90554407	0.42%	889062.9067	0.41%	103650.7878	0.39%
Placer (LT)	2045	MDV	Aggregate	Aggregate	Electricity	88.97598947	0.57%	922695.0366	0.43%	144478.8127	0.55%
Placer (LT)	2045	MH	Aggregate	Aggregate	Gasoline	24.98000041	0.16%	99439.94904	0.05%	817.1727519	0.00%
Placer (LT)	2045	MH	Aggregate	Aggregate	Diesel	14.86461268	0.09%	48292.29906	0.02%	486.0728347	0.00%
Placer (LT)	2045	Motor Coach	Aggregate	Aggregate	Diesel	6.788190381	0.04%	247737.0189	0.11%	28939.41323	0.11%
Placer (LT)	2045	OBUS	Aggregate	Aggregate	Gasoline	5.845017286	0.04%	103228.5608	0.05%	38241.70362	0.15%
Placer (LT)	2045	PTO	Aggregate	Aggregate	Diesel	0	0.00%	87.55194208	0.00%	0	0.00%
Placer (LT)	2045	SBUS	Aggregate	Aggregate	Gasoline	3.277016001	0.02%	55659.30696	0.03%	4286.336929	0.02%
Placer (LT)	2045	SBUS	Aggregate	Aggregate	Diesel	1.176485698	0.01%	11785.94901	0.01%	4439.509564	0.02%
Placer (LT)	2045	T6 CAIRP heavy	Aggregate	Aggregate	Diesel	0.002755769	0.00%	53.78320147	0.00%	12.55307959	0.00%
Placer (LT)	2045	T6 CAIRP small	Aggregate	Aggregate	Diesel	0.001180641	0.00%	7.340325295	0.00%	5.378053699	0.00%
Placer (LT)	2045	T6 instate construction heavy	Aggregate	Aggregate	Diesel	8.015038689	0.05%	167432.4767	0.08%	11305.53163	0.04%
Placer (LT)	2045	T6 instate construction small	Aggregate	Aggregate	Diesel	56.72863611	0.36%	875256.9178	0.40%	80018.00297	0.30%
Placer (LT)	2045	T6 instate heavy	Aggregate	Aggregate	Diesel	25.9751893	0.17%	815767.7412	0.38%	93522.02597	0.35%
Placer (LT)	2045	T6 instate small	Aggregate	Aggregate	Diesel	78.75851036	0.50%	1098453.613	0.51%	283565.0345	1.08%
Placer (LT)	2045	T6 OOS heavy	Aggregate	Aggregate	Diesel	0.00140995	0.00%	27.24885125	0.00%	6.422604759	0.00%
Placer (LT)	2045	T6 OOS small	Aggregate	Aggregate	Diesel	0.003140127	0.00%	22.36314039	0.00%	14.30390449	0.00%
Placer (LT)	2045	T6 Public	Aggregate	Aggregate	Diesel	1.160334946	0.01%	5012.2552	0.00%	1098.140991	0.00%
Placer (LT)	2045	T6 utility	Aggregate	Aggregate	Diesel	2.689753685	0.02%	13982.70545	0.01%	9650.836223	0.04%
Placer (LT)	2045	T6TS	Aggregate	Aggregate	Gasoline	31.21199984	0.20%	699747.7723	0.32%	204208.1295	0.77%
Placer (LT)	2045	T7 CAIRP	Aggregate	Aggregate	Diesel	10.28298142	0.07%	667473.8465	0.31%	46841.03695	0.18%
Placer (LT)	2045	T7 CAIRP construction	Aggregate	Aggregate	Diesel	2.207362581	0.01%	120268.2025	0.06%	3113.572927	0.01%
Placer (LT)	2045	T7 NNOOS	Aggregate	Aggregate	Diesel	16.22355524	0.10%	824636.9328	0.38%	73901.53881	0.28%
Placer (LT)	2045	T7 NOOS	Aggregate	Aggregate	Diesel	3.977211434	0.03%	255217.946	0.12%	18116.99352	0.07%
Placer (LT)	2045	T7 Public	Aggregate	Aggregate	Diesel	49.24772632	0.31%	311247.652	0.14%	46608.04814	0.18%
Placer (LT)	2045	T7 Single	Aggregate	Aggregate	Diesel	0.111797413	0.00%	440.9290805	0.00%	402.5195127	0.00%
Placer (LT)	2045	T7 single construction	Aggregate	Aggregate	Diesel	12.5369793	0.08%	298363.2894	0.14%	17683.90915	0.07%
Placer (LT)	2045	T7 tractor	Aggregate	Aggregate	Diesel	0.121789066	0.00%	4615.364735	0.00%	482.5769953	0.00%
Placer (LT)	2045	T7 tractor construction	Aggregate	Aggregate	Diesel	10.62721771	0.07%	246123.4456	0.11%	14990.11428	0.06%
Placer (LT)	2045	T7 utility	Aggregate	Aggregate	Diesel	0.58217149	0.00%	3686.793879	0.00%	2088.831308	0.01%
Placer (LT)	2045	T7IS	Aggregate	Aggregate	Gasoline	0.124476036	0.00%	6424.385586	0.00%	814.3989069	0.00%
El Dorado (LT)	2020	T7 utility	Aggregate	Aggregate	Diesel	1.320558987	0.01%	26.80509266	0.00%	15.18642836	0.00%
El Dorado (LT)	2020	T7IS	Aggregate	Aggregate	Gasoline	0.006995114	0.00%	1.71178143	0.00%	0.139958231	0.00%

LT Speed Bins - 2045					
Bin	**California**				
	II	IX	XI	Total	**Percent**
5	4	10	6	20	0.00%
10	9	26	13	49	0.00%
15	29383	28360	28238	85981	7.45%
20	1194	1238	753	3185	0.28%
25	71021	20863	21188	113072	9.80%
30	11423	11677	12575	35675	3.09%
35	168936	82555	92789	344280	29.83%
40	61196	46433	37484	145113	12.57%
45	62936	74747	70824	208507	18.07%
50	22753	47084	46747	116584	10.10%
55	42790	29963	28842	101594	8.80%
60	0	0	0	0	0.00%
65	0	0	0	0	0.00%
70	0	0	0	0	0.00%
75	0	0	0	0	0.00%
>75	0	0	0	0	0.00%
Total	471646	342955	339459	1154060	

*Note: Speed bin data for 2040 was utilized for year 2045 in the absence of more specific data.
Source: Spreadsheet provided by Kittelson

Appendix C

Harbor Craft, Dredge and Barge Emission Factor Calculator Results

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Input Data Page

INSTRUCTIONS:
1. Enter inputs into tables A1, A2, A3, and A4 below. Required inputs must be entered to estimate emission rates, optional inputs should be entered if available.
2. After entering inputs, review status and error messages (cell E14); make changes as necessary until this cell is green indicating that inputs are ready.
3. Results may be reviewed in "MainEngineEmissRates" and "AuxEngineEmissRates" tabs, both colored yellow.

Inputs and Status

Inputs color legend	Required Input
	Optional Input
Status and error messages	OK. Default values will be applied to blank model year and HP

A1. Inventory Calendar year

Inventory Calendar Year	2045

A4. Project Information

Inputs	
Date (mm/dd/yyyy):	8/7/2020
Project Name:	TRPA RTP/SCS
Project Location:	Lake Tahoe
Contact Person:	Annaliese Miller
Company Name:	Rincon Consultants
Mailing Address:	209 E Victoria Street, Suite B, Santa Barbara, CA 93101
Phone Number:	805-869-1323
Email Address:	amiller@rinconconsultants.com

A2. Main Engine Inputs

Required Inputs			Optional Inputs			
Vessel Name	**Vessel Type**	**No. of Engines**	**Engine Model Year**	**Engine Rated Power (hp)**	**Vessel Number**	**Home Port**
North Shore Water Taxi	Ferries	2				

A3. Auxiliary Engine Inputs

Required Inputs			Optional Inputs	
Vessel Name	**Auxiliary Engine Type**	**No. of Engines**	**Engine Model Year**	**Engine Rated Power (hp)**
North Shore Water Taxi	Ferries Generator	2		

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Main Engine Emission Rates

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information								Emission Rates (lb/hr; estimates for each row are totals over the number of engines listed in column J for that row)										Emission Rates for a Single Engine (g/bhp-hr)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore W			Ferries	2025	392	0.42	2	0.083	0.074	3.322	0.512	3.384	0.004	428.958	0.017	0.003	430.430	0.114	0.101	4.577	0.705	4.663	0.006	591.045	0.024	0.005	593.1

SMAQMD Harborcraft, Dredge and Barge Emission Factor Calculator - Auxiliary Engine Emission Rates

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information									Emission Rates (lb/hr; estimates for each row are totals over the number of engines listed in column K for that row)										Emission Rates for a Single Engine (g/bhp-hr)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Auxiliary Engine Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of Engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Wa			Ferries	Ferries Generator	2025	82	0.43	2	0.042	0.037	0.890	0.168	0.670	0.001	91.470	0.004	0.001	91.783	0.27	0.24	5.75	1.09	4.33	0.006	591.04	0.02	0.00	593.1

Rincon Calculations of Main Engine Emissions

Hours of Use Per Day per Ferry	8
Number of Ferries	1
Number of Days of Operation per Year for Ferries	122

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information								Emissions (lbs/day; estimates for each row are totals over the number of engines listed in column H for that row)									
Vessel Name	Vessel Number	Home Port	Vessel Type	Engine Model Year	Engine Rated Power (hp)	Engine Load Factor	Number of engines	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Water Taxi			Ferries	2025	391.9048	0.42	2	0.7	0.6	26.6	4.1	27.1	0.0	3431.7	0.1	0.0	3443.4

Vessel Name	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
North Shore Water Taxi	0.04	0.04	1.62	0.25	1.65	0.0020	189.9	0.0077	0.0015	190.5

Rincon Calculations of Auxiliary Engine Emissions

Hours of Use Per Day per Ferry	8
Number of Ferries	1
Number of Days of Operation per Year for Ferries	122

Calendar Year: 2045 **Number of Entries:** 1

Vessel/Engine Information									Emissions (lbs/day; estimates for each row are totals over the number of engines listed in column H for that row)									
Vessel Name	**Vessel Number**	**Home Port**	**Vessel Type**	**Auxiliary Engine Type**	**Engine Model Year**	**Engine Rated Power (hp)**	**Engine Load Factor**	**Number of Engines**	**PM_{10}**	**$PM_{2.5}$**	**NOx**	**ROG**	**CO**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
North Shore Water Taxi			Ferries	Ferries Generator	2025	82	0.43	2	0.3	0.3	7.1	1.3	5.4	0.0	731.8	0.0	0.0	734.3

Vessel Name	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	**$PM_{2.5}$**	**NOx**	**ROG**	**CO**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
North Shore Water Taxi	0.02	0.02	0.43	0.08	0.33	0.00	40.487	0.00	0.000	40.626

Rincon Summary Emission Calculations

	Emissions (lbs/day)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
Main Engine	0.7	0.6	26.6	4.1	27.1	0.0	3431.7	0.1	0.0	3443.4
Auxilary Engine	0.3	0.3	7.1	1.3	5.4	0.0	731.8	0.0	0.0	734.3
Total Emissions	1.0	0.9	33.7	5.4	32.4	0.0	4163.4	0.2	0.0	4177.7

	Emissions (tons/year for air pollutants, MT/year for GHGs)									
	PM_{10}	$PM_{2.5}$	NOx	ROG	CO	SO_2	CO_2	CH_4	N_2O	CO_2e
Main Engine	0.0	0.0	1.6	0.2	1.7	0.0	189.9	0.0	0.0	190.5
Auxilary Engine	0.0	0.0	0.4	0.1	0.3	0.0	40.5	0.0	0.0	40.6
Total Emissions	0.1	0.1	2.1	0.3	2.0	0.0	230.4	0.0	0.0	231.1

Appendix D

Senate Bill 375 Analysis Calculations

SB375 Report
Date: 08/10/2020
Time: 09:09:53
EMFAC2017 Version: v1.0.2

Field Name	Pollutant	Units	Process
CO2_RUNEX	Carbon Dioxide	Tons Per Day	Running Exhaust
CO2_IDLEX	Carbon Dioxide	Tons Per Day	Idle Exhaust
CO2_STREX	Carbon Dioxide	Tons Per Day	Start Exhaust
CO2_TOTEX	Carbon Dioxide	Tons Per Day	Total
Fuel_GAS	Fuel	1000s Gallons	Gasoline
Fuel_DSL	Fuel	1000s Gallons	Diesel

Area	Sub-Area	Cal. Year	Season	Veh_Tech	EMFAC2007 Category	Population	VMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	Fuel_GAS	Fuel_DSL
TMPO	All Sub-Areas	2005	Annual	All Vehicles	All Vehicles	22,412.7	743,564.7	138,871.3	374.3	0	14.5	388.8	42.3	0.0882
TMPO	All Sub-Areas	2005	Annual	LDA - DSL	LDA - DSL	72.1	1,623.2	420.1	0.6498			0.6498		0.0585
TMPO	All Sub-Areas	2005	Annual	LDA - GAS	LDA - GAS	8,554.2	284,567.9	52,641.5	111.4		4.45	115.9	12.7	
TMPO	All Sub-Areas	2005	Annual	LDT1 - DSL	LDT1 - DSL	16.3	331.8	93.1	0.1579			0.1579		0.0142
TMPO	All Sub-Areas	2005	Annual	LDT1 - GAS	LDT1 - GAS	3,048.1	80,484.2	18,178.2	36.2		1.81	38.0	4.31	
TMPO	All Sub-Areas	2005	Annual	LDT2 - DSL	LDT2 - DSL	0.7318	27.5	4.70	0.0147			0.0147		0.0013
TMPO	All Sub-Areas	2005	Annual	LDT2 - GAS	LDT2 - GAS	5,414.9	192,554.4	34,017.4	104.0		3.76	107.8	11.7	
TMPO	All Sub-Areas	2005	Annual	MDV - DSL	MDV - DSL	12.7	223.7	73.7	0.1575			0.1575		0.0142
TMPO	All Sub-Areas	2005	Annual	MDV - GAS	MDV - GAS	5,293.8	183,752.0	33,442.6	121.7		4.53	126.2	13.6	
TMPO	All Sub-Areas	2035	Annual	All Vehicles	All Vehicles	18,550.3	732,881.7	114,028.3	334.5	0	10.9	345.5	36.5	0.3278
TMPO	All Sub-Areas	2035	Annual	LDA - DSL	LDA - DSL	127.0	5,450.0	800.4	2.09			2.09		0.1884
TMPO	All Sub-Areas	2035	Annual	LDA - GAS	LDA - GAS	10,857.5	463,241.3	68,219.5	181.4		5.57	186.9	20.0	
TMPO	All Sub-Areas	2035	Annual	LDT1 - DSL	LDT1 - DSL	0.8367	19.1	4.41	0.0086			0.0086		0.0008
TMPO	All Sub-Areas	2035	Annual	LDT1 - GAS	LDT1 - GAS	637.2	23,986.7	3,798.7	10.9		0.3594	11.3	1.21	
TMPO	All Sub-Areas	2035	Annual	LDT2 - DSL	LDT2 - DSL	8.68	351.8	54.2	0.1835			0.1835		0.0165
TMPO	All Sub-Areas	2035	Annual	LDT2 - GAS	LDT2 - GAS	4,135.6	160,270.0	25,260.1	85.6		2.81	88.4	9.44	
TMPO	All Sub-Areas	2035	Annual	MDV - DSL	MDV - DSL	56.0	2,026.4	349.1	1.36			1.36		0.1221
TMPO	All Sub-Areas	2035	Annual	MDV - GAS	MDV - GAS	2,727.4	77,536.3	15,541.9	53.0		2.19	55.2	5.91	
TMPO	All Sub-Areas	2045	Annual	All Vehicles	All Vehicles	19,144.0	750,741.3	118,695.7	341.6	0	11.3	352.9	37.3	0.3412
TMPO	All Sub-Areas	2045	Annual	LDA - DSL	LDA - DSL	137.2	5,652.7	861.8	2.17			2.17		0.1955
TMPO	All Sub-Areas	2045	Annual	LDA - GAS	LDA - GAS	11,661.4	480,161.3	73,235.4	188.1		5.98	194.0	20.7	
TMPO	All Sub-Areas	2045	Annual	LDT1 - DSL	LDT1 - DSL	0.4996	14.4	2.72	0.0064			0.0064		0.0006
TMPO	All Sub-Areas	2045	Annual	LDT1 - GAS	LDT1 - GAS	596.6	24,051.0	3,694.8	11.0		0.3522	11.3	1.21	
TMPO	All Sub-Areas	2045	Annual	LDT2 - DSL	LDT2 - DSL	9.13	358.9	56.7	0.1872			0.1872		0.0168
TMPO	All Sub-Areas	2045	Annual	LDT2 - GAS	LDT2 - GAS	4,175.7	162,835.5	25,814.1	87.0		2.88	89.8	9.59	
TMPO	All Sub-Areas	2045	Annual	MDV - DSL	MDV - DSL	63.4	2,128.4	388.2	1.43			1.43		0.1283
TMPO	All Sub-Areas	2045	Annual	MDV - GAS	MDV - GAS	2,500.1	75,539.1	14,642.0	51.8		2.09	53.9	5.76	

Area	Sub-Area	Cal. Year	Season	Veh_Tech	EMFAC2007 Category	Population	VMT	Trips	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_TOTEX	Fuel_GAS	Fuel_DSL
TMPO	El Dorado (LT)	2005	Annual	All Vehicles	All Vehicles	14,322.0	486,843.8	65,500.1	233.5	0	5.98	239.4	26.2	0.0705
TMPO	El Dorado (LT)	2005	Annual	LDA - DSL	LDA - DSL	50.1	1,353.1	211.7	0.5085			0.5085		0.0458
TMPO	El Dorado (LT)	2005	Annual	LDA - GAS	LDA - GAS	5,338.8	173,644.4	24,166.9	67.9		1.85	69.7	7.73	
TMPO	El Dorado (LT)	2005	Annual	LDT1 - DSL	LDT1 - DSL	12.3	299.1	50.4	0.1624			0.1624		0.0146
TMPO	El Dorado (LT)	2005	Annual	LDT1 - GAS	LDT1 - GAS	1,997.4	58,845.3	8,647.5	26.0		0.7799	26.8	3.03	
TMPO	El Dorado (LT)	2005	Annual	LDT2 - DSL	LDT2 - DSL	0.6857	27.1	3.32	0.0131			0.0131		0.0012
TMPO	El Dorado (LT)	2005	Annual	LDT2 - GAS	LDT2 - GAS	3,630.1	130,024.4	16,916.9	68.9		1.69	70.6	7.66	
TMPO	El Dorado (LT)	2005	Annual	MDV - DSL	MDV - DSL	7.54	164.4	30.9	0.0998			0.0998		0.0090
TMPO	El Dorado (LT)	2005	Annual	MDV - GAS	MDV - GAS	3,285.2	122,485.9	15,472.4	69.9		1.67	71.5	7.75	
TMPO	El Dorado (LT)	2035	Annual	All Vehicles	All Vehicles	13,362.4	481,232.4	59,934.5	195.7	0	4.49	200.2	21.2	0.2264
TMPO	El Dorado (LT)	2035	Annual	LDA - DSL	LDA - DSL	86.5	3,360.9	402.0	1.01			1.01		0.0909
TMPO	El Dorado (LT)	2035	Annual	LDA - GAS	LDA - GAS	7,466.9	288,621.7	34,572.0	102.4		2.25	104.6	11.2	
TMPO	El Dorado (LT)	2035	Annual	LDT1 - DSL	LDT1 - DSL	0.2022	4.68	0.7766	0.0027			0.0027		0.0002
TMPO	El Dorado (LT)	2035	Annual	LDT1 - GAS	LDT1 - GAS	782.4	26,878.0	3,422.0	11.2		0.2631	11.4	1.22	
TMPO	El Dorado (LT)	2035	Annual	LDT2 - DSL	LDT2 - DSL	23.1	894.1	106.1	0.3970			0.3970		0.0357
TMPO	El Dorado (LT)	2035	Annual	LDT2 - GAS	LDT2 - GAS	3,105.5	100,658.5	13,304.3	46.6		1.15	47.8	5.11	
TMPO	El Dorado (LT)	2035	Annual	MDV - DSL	MDV - DSL	53.2	1,940.6	240.3	1.11			1.11		0.0995
TMPO	El Dorado (LT)	2035	Annual	MDV - GAS	MDV - GAS	1,844.7	58,874.0	7,887.0	33.0		0.8281	33.8	3.62	
TMPO	El Dorado (LT)	2045	Annual	All Vehicles	All Vehicles	14,159.1	495,612.9	63,794.3	199.3	0	4.69	204.0	21.5	0.2348
TMPO	El Dorado (LT)	2045	Annual	LDA - DSL	LDA - DSL	100.2	3,633.8	460.6	1.09			1.09		0.0982
TMPO	El Dorado (LT)	2045	Annual	LDA - GAS	LDA - GAS	8,597.5	311,356.6	39,448.1	110.4		2.56	112.9	12.1	
TMPO	El Dorado (LT)	2045	Annual	LDT1 - DSL	LDT1 - DSL	0.1296	3.67	0.5263	0.0021			0.0021		0.0002
TMPO	El Dorado (LT)	2045	Annual	LDT1 - GAS	LDT1 - GAS	752.7	26,092.9	3,358.1	10.8		0.2570	11.1	1.18	
TMPO	El Dorado (LT)	2045	Annual	LDT2 - DSL	LDT2 - DSL	25.9	920.3	116.8	0.4086			0.4086		0.0368
TMPO	El Dorado (LT)	2045	Annual	LDT2 - GAS	LDT2 - GAS	2,863.8	94,647.3	12,517.4	43.6		1.07	44.6	4.77	
TMPO	El Dorado (LT)	2045	Annual	MDV - DSL	MDV - DSL	55.9	1,942.0	250.5	1.11			1.11		0.0996
TMPO	El Dorado (LT)	2045	Annual	MDV - GAS	MDV - GAS	1,763.0	57,016.2	7,642.3	31.9		0.8030	32.7	3.50	
TMPO	Placer (LT)	2005	Annual	All Vehicles	All Vehicles	7,406.7	261,172.0	34,240.8	116.8	0	3.10	119.9	13.1	0.0225
TMPO	Placer (LT)	2005	Annual	LDA - DSL	LDA - DSL	20.0	446.1	79.0	0.1679			0.1679		0.0151
TMPO	Placer (LT)	2005	Annual	LDA - GAS	LDA - GAS	3,031.1	104,572.9	13,939.1	38.3		1.06	39.4	4.33	
TMPO	Placer (LT)	2005	Annual	LDT1 - DSL	LDT1 - DSL	3.28	65.8	12.8	0.0307			0.0307		0.0028
TMPO	Placer (LT)	2005	Annual	LDT1 - GAS	LDT1 - GAS	936.9	28,174.6	4,082.5	11.8		0.3670	12.1	1.37	
TMPO	Placer (LT)	2005	Annual	LDT2 - DSL	LDT2 - DSL	0.0273	0.6733	0.1098	0.0003			0.0003		0.0000
TMPO	Placer (LT)	2005	Annual	LDT2 - GAS	LDT2 - GAS	1,604.8	58,562.9	7,527.6	29.2		0.7486	29.9	3.24	
TMPO	Placer (LT)	2005	Annual	MDV - DSL	MDV - DSL	4.59	85.6	18.2	0.0506			0.0506		0.0046
TMPO	Placer (LT)	2005	Annual	MDV - GAS	MDV - GAS	1,806.1	69,263.4	8,581.5	37.3		0.9224	38.2	4.13	
TMPO	Placer (LT)	2035	Annual	All Vehicles	All Vehicles	6,028.4	249,777.2	27,730.5	96.2	0	2.07	98.2	10.4	0.1211
TMPO	Placer (LT)	2035	Annual	LDA - DSL	LDA - DSL	40.6	1,729.8	189.4	0.4844			0.4844		0.0436
TMPO	Placer (LT)	2035	Annual	LDA - GAS	LDA - GAS	3,382.6	145,609.7	15,822.6	48.7		1.03	49.7	5.32	
TMPO	Placer (LT)	2035	Annual	LDT1 - DSL	LDT1 - DSL	0.0428	1.93	0.2033	0.0010			0.0010		0.0001
TMPO	Placer (LT)	2035	Annual	LDT1 - GAS	LDT1 - GAS	393.4	15,933.3	1,786.1	6.24		0.1369	6.37	0.6814	
TMPO	Placer (LT)	2035	Annual	LDT2 - DSL	LDT2 - DSL	13.4	544.6	61.2	0.2252			0.2252		0.0203
TMPO	Placer (LT)	2035	Annual	LDT2 - GAS	LDT2 - GAS	1,313.2	52,288.4	5,931.7	22.7		0.5082	23.2	2.48	
TMPO	Placer (LT)	2035	Annual	MDV - DSL	MDV - DSL	31.4	1,194.3	141.2	0.6353			0.6353		0.0572
TMPO	Placer (LT)	2035	Annual	MDV - GAS	MDV - GAS	853.8	32,475.2	3,798.1	17.1		0.3986	17.5	1.87	
TMPO	Placer (LT)	2045	Annual	All Vehicles	All Vehicles	6,275.3	254,156.5	28,949.2	97.2	0	2.14	99.4	10.5	0.1171
TMPO	Placer (LT)	2045	Annual	LDA - DSL	LDA - DSL	43.6	1,782.9	202.2	0.4989			0.4989		0.0449
TMPO	Placer (LT)	2045	Annual	LDA - GAS	LDA - GAS	3,684.5	151,759.9	17,154.1	50.7		1.11	51.9	5.55	
TMPO	Placer (LT)	2045	Annual	LDT1 - DSL	LDT1 - DSL	0.0520	2.14	0.2408	0.0011			0.0011		0.0001
TMPO	Placer (LT)	2045	Annual	LDT1 - GAS	LDT1 - GAS	402.7	16,085.3	1,841.3	6.29		0.1409	6.43	0.6871	
TMPO	Placer (LT)	2045	Annual	LDT2 - DSL	LDT2 - DSL	12.8	512.0	58.7	0.2117			0.2117		0.0191
TMPO	Placer (LT)	2045	Annual	LDT2 - GAS	LDT2 - GAS	1,280.6	51,141.4	5,853.6	22.2		0.4990	22.7	2.42	
TMPO	Placer (LT)	2045	Annual	MDV - DSL	MDV - DSL	28.6	1,108.3	129.7	0.5895			0.5895		0.0531
TMPO	Placer (LT)	2045	Annual	MDV - GAS	MDV - GAS	822.4	31,764.5	3,709.4	16.7		0.3891	17.1	1.83	

Emissions Summary			
	2005	2035	2045
Per Capita Passenger VMT	18.0	17.5	17.3
Daily CO2 Emissions (tons/day)	388.8	345.5	352.9
Population	41,340	41,951	43,468
Daily CO2 Emissions per Capita (pounds/person/day)	18.81	16.47	16.24
Percent Change		-12.4%	-13.7%

Appendix G

Vehicle Miles Traveled Projections and Traffic Operations Analysis

TAHOE REGIONAL PLANNING AGENCY

Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
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MEMO

DATE: April 14, 2020

RE: Guidance for Assessment of Vehicle Miles Traveled (VMT) Impacts of Projects in the Tahoe Basin

The purpose of the *Lake Tahoe VMT Impact Analysis Guidance* document is to establish a consistent methodology for determining the VMT impacts of projects proposed in the Tahoe Region to maintain compliance with Compact Article VII (Environmental Impact Statements) and Chapter 4 of the Code of Ordinances (Required Findings). This guidance is the required methodology for project- and plan-level analysis during the period in which TRPA is updating and validating its transportation model and updating the VMT Threshold Standard. The VMT Threshold Standard update process is anticipated to be complete by August 2020. The model may be available for use in project-level analysis in early 2020, at which point this guidance will be updated and re-issued.

This *Guidance* document includes significant background information about how TRPA has required projects to analyze transportation impacts and VMT to-date, then outlines the two key elements that will comprise TRPA's VMT analysis process until further notice. The overall organization of the document includes:

1. **Background** (page 2)– the policy and legislative underpinnings for evaluating VMT;
2. **Screening Criteria** (page 14)– the screening criteria will determine which projects need to undergo an in-depth VMT analysis until this guidance is changed or replaced;
3. **VMT Calculation Methodology** (page 15) – specific guidance on how to conduct the VMT analysis for projects identified by the screening criteria.

This version of the memo is an update to the previous version released on April 4, 2019. All updates are for clarification and readability only, and no substantive changes have been made to the content or methodology.

Background

TRPA's Vehicle Miles Traveled (VMT) threshold was established in 1982 through TRPA's Resolution 82-11 as an indicator of nitrate deposition in the air quality threshold category. The threshold language reads "reduce vehicle miles of travel in the Basin by 10% of the 1981 base year values." TRPA's threshold evaluation reports, produced every four to five years, have consistently interpreted this to mean that daily VMT should be reduced by 10% of 1981 VMT levels, as estimated for a peak summer day[1] using the TRPA transportation model. While the stated purpose for the VMT threshold has been achieved many times over through vehicle tailpipe nitrogen emission reduction, VMT remains an important performance measure in efforts to reduce greenhouse gases and effectuate TRPA and state policies.

Environmental threshold carrying capacities, or "thresholds" are tied to project environmental analysis in Articles V (Planning) and VII (Environmental Impact Statements) of the TRPA Compact and Chapter 4 of the Code of Ordinances (Required Findings). Article V(g) of the TRPA Compact establishes that TRPA shall adopt ordinances prescribing specific written findings that the agency must make prior to approving any project in the region. Article V(g) specifies that the findings shall insure that the project under review will not cause the adopted environmental threshold carrying capacities of the region to be exceeded. This article is codified in Section 4.4.1.B of the TRPA Code of Ordinances, which states that to approve any project TRPA shall find that the project will not cause the environmental threshold carrying capacities to be exceeded. Finally, Article VII of the Compact establishes that the TRPA, when acting upon matters that have a significant impact on the environment, shall prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project.

Historical calculation of the VMT Threshold

Because the VMT threshold standard was adopted with reference to a 1981 baseline that was not ascertained at the time, it has been necessary to estimate that unknown baseline. Technology has advanced considerably in the last forty years, and the agency has continually sought to utilize the best available data and methods to estimate VMT. TRPA is currently on the fourth generation of its model to estimate VMT and the estimates of VMT have improved significantly. Increase computing power has enabled a more complex and accurate representation of travel behavior and a more complete representation of the regional road network.

TRPA currently uses TransCAD, an activity-based model, to estimate VMT. Activity-based travel demand models contain complex representations of travel behavior and are widely considered the most advanced and accurate method to estimate VMT. As the agency has continued to apply the best

[1] Modeled for a day in late August.

available information to provide the most reasonably accurate estimate of VMT, the comparison to historic estimates of VMT has remained a persistent challenge.

When TRPA transitioned from using Tranplan to TransCAD in 2005, it was able to incorporate a more complete representation of the Region's street network. The result of the more complex spatial representation of the road network was an increase in trip lengths throughout the region, and thus a more fine-grained reporting of VMT. At the time of the transition, TRPA ran both models for the 2005 base year. Tranplan estimated VMT at approximately 1.6 million, while TransCAD estimated VMT at 2.1 million. The difference is not an actual change in VMT or an increase in capacity of the roadway network but a finer-grained representation of the road network that pre-existed the switch from Tranplan to TransCAD. The TransCAD estimate captures more of the VMT from the existing roadway network than previous models did.

In an ideal world, the current activity-based model would be run using data from 1981 to establish a VMT estimate for that year. However, the visitor and resident travel behavior data from 1981 needed for the current activity-based model is not known. That data was not collected in 1981 and is not available. In the absence of that data, TRPA has used a traffic count-based adjustment methodology to generate a 1981 VMT estimate whenever improvements are made to the TransCAD model. The chosen methodology assumes that the ratio between today's traffic counts and 1981 traffic counts is the same as the ratio between today's VMT and 1981 VMT.

To determine the 1981 VMT and the threshold number, the ratio between the most recent base-year VMT (currently 2014) and the sum of peak month average daily traffic volumes at 20 Tahoe count stations in that year is calculated. This ratio is multiplied by the sum of peak month traffic volumes measured in 1981. The result is the VMT value in 1981. The VMT threshold is a ten percent reduction from that value. Use of this ratio assumes that all VMT model parameters (e.g., number of vehicle occupants, average trip distance) have remained unchanged between 1981 and the most recent base-year. Because it is unknown how these parameters may have actually changed over the previous decades, the 2011 Threshold Evaluation gave the VMT status and trend a confidence rating of "low."

The most recent base year VMT of 1,937,070 and corresponding VMT threshold standard of 2,030,938 are established on Page 60 of the Air Quality Chapter of the 2015 Threshold Report (http://www.trpa.org/wp-content/uploads/POST_9_23_RELEASE_EDITS_Ch3_AirQuality-Edits-Accepted.pdf).

Base-Year and Forecast Year TransCAD Model Inputs

Every four years TRPA establishes a new "base-year" and forecast year model runs in support of the environmental analysis for the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) update. Base-year model runs were conducted in 2014, 2010, and 2005. See Attachment A for

a table of each Base Year VMT and the corresponding threshold value. Previously, model runs were also conducted for the 1995, 1987, and 1981 base years. As noted above, base years prior to 2005 are not comparable to those generated in 2005 or later. In 2012, the base-year and forecast years not only supported the RTP/SCS update, but they also supported an update to TRPA's Regional Plan. Key model inputs for the base-year scenario include existing residential units, existing hotel, motel, and campground units, existing employees, residential and overnight lodging occupancy rates, and percentage of residents in low-, medium-, and high-income categories. These inputs are aggregated at the level of Traffic Analysis Zone (TAZ). TRPA uses the most up-to-date census information for income categories and residential occupancy rates, local survey data for overnight lodging occupancy rates, data collected from local jurisdictions and TRPA permits for residential, tourist, and commercial floor area development, and data consolidators such as Infogroup.

The forecast year scenario includes the same land-use inputs; however, the location of new development must be extrapolated based on proposed policies, programs, and projects. For the 2012 Regional Plan Update forecast scenarios, TRPA estimated where new residential, tourist, and commercial square floor area would be located based on proposed zoning regulations and development incentives. This included a new Transfer of Development Rights Program and Area Plan regulations that incentivize growth in Centers. The "build-out" scenario assumed that all allowable residential, tourist, and commercial development rights would be constructed by 2035. A full description of how each of these development rights were distributed in the model, as well as how other input factors were derived in the 2010 base-year (which supported the 2012 Regional Plan Update), the 2014 base-year (which supported the 2017 RTP/SCS) and the forecast scenarios for the 2012 Regional Plan Update and the 2017 RTP/SCS can be found in the appendices to the draft environmental documents for these plans or by request from TRPA.

Adjustments to VMT based on regional bicycle, pedestrian, transit, Intelligent Transportation Systems (ITS), parking and transportation demand management strategies planned for in the RTP/SCS were also considered in the forecast scenarios, through use of a post-processor spreadsheet tool called the "Trip Reduction Impact Analysis," or TRIA. Because the TransCAD model cannot incorporate most non-auto mode strategies into its structure,[2] it has been necessary to use a post-processor tool to capture these effects. The TRIA is only used to model the effects of regional strategies – i.e., the effects of a completed, regional bicycle and pedestrian network, and ITS, parking, and transportation demand strategies called for at the regional level or in the TRPA Code, such as the TRPA's Employer Trip Reduction Strategy (Code Section 65.5), which is applied to employers Basin-wide.

[2] The TransCAD platform does allow for incorporating a limited transit system into the transportation network. Because of the frequent changes to transit routes and schedules, however, the TRPA has not utilized this function to-date. As part of the current model update the TRPA is investigating the benefit of including the transit network in future modelling.

Project-Level VMT Requirements in the Code of Ordinances

The current project-level VMT requirements that are spelled out in the Code of Ordinances are described below. The Methodology section of this *Guidance* further clarifies these requirements.

Under 100 trips

Under current code proposed activities that generate a certain amount of vehicle trips are required to complete a transportation analysis (Code Section 65.2). The analysis is triggered through the project application. Proposed activities that are allowed uses, generate less than 100 daily vehicle trips and are not changing from one major use classification to another (example: residential to commercial or commercial to tourist accommodation) are not required to complete a transportation analysis or a Change in Operation Form (http://www.trpa.org/wp-content/uploads/Change_In_Operation.pdf), although they are still subject to the air quality mitigation fee. All other proposed activities must complete a Change in Operation Form which indicates the level of transportation analysis required. This includes activities which do not involve new construction, but which involve a change in use (this could include, for example, a change of use within an existing commercial space that involved the conversion of a retail space into a restaurant).

Between 100 and 200 trips

Section 65.2 of the Code of Ordinances also currently requires that projects generating more than 100 additional vehicle trips but less than 200 additional vehicle trips complete a traffic analysis if the project is located within 300 feet of U.S. Highway 50 and in a "maintenance" area. Since the Tahoe Region has achieved its air quality goals and no longer has air quality maintenance areas, under this section projects that generate between 100 and 200 trips are no longer required to complete a full traffic analysis. Per this guidance (page 14), these projects must still complete a VMT analysis, however they are not required to complete a full transportation analysis (i.e. impacts on level-of-service, air quality, ingress and egress will not be required). They are still subject to the air quality mitigation fee.

Over 200 trips

All projects that generate greater than 200 additional vehicle trips per day must complete a traffic analysis. As specified in Section 65.2.4 of the TRPA Code of Ordinances, a traffic analysis shall include:

1. Trip generation rates of the proposed project;
2. Impacts of the proposed project on the level of service at any impact intersections;
3. Impacts of the proposed project on regional vehicle miles travelled (VMT);
4. Impacts of the proposed project on regional and subregional air quality;

5. Ingress and egress characteristics of the proposed project, and their impacts on traffic flow adjacent to the project area;
6. Measures necessary to mitigate all traffic and air quality impacts to a level consistent with the environmental thresholds, the Goals and Policies, the Regional Transportation Plan, and the 1992 Air Quality Plan; and
7. Additional information that TRPA may require.

The Change in Operation Form worksheet instructs applicants to use the TRPA Trip Table (http://www.trpa.org/wp-content/uploads/Attachment_A_Trip_Table.pdf) to find the trip rates which best fit the proposed and previous or existing operations. Applicants are encouraged to conduct Tahoe-specific surveys of like land-uses for their projects.

Projects have usually followed a similar format for their VMT analysis methodology, although there is some variation, which is called out below. In the past the steps have included:

1. Identifying proposed and existing land uses, and the trip rates associated with those uses;
2. Identifying the proportions of trips made by different types of users (for example, percentages of trips made by visitors, residents, and/or employees). There has been some variation in the level of detail provided in this step, particularly with visitors. Some projects have broken visitors into groups such as "close-proximity visitors" and "far-proximity visitors."[3] Others broke them into smaller groups, selecting multiple points around the basin from which visitors could be arriving, and estimating what proportion would come from each point. Other projects have grouped all visitors together.
3. Identifying proposed and existing internal trip capture, non-auto mode share and pass-by trips;
4. Identifying trip lengths. This has been another source of variation among analyses. Some project applicants worked with the TRPA to identify average trip lengths by user-type from the TRPA transportation model. Others have generated trip lengths using a map for each specific user-type they identified in Step 2.
5. Multiplying trip rates by trip lengths for each user-type to obtain VMT for the project. In order to obtain all impacts to regional VMT from the project, applicants have been able to adjust this outcome to reflect other VMT effects not captured by this calculation.
6. Subtracting existing VMT from proposed VMT.

See the "VMT Methodology" beginning on page 14 of this memo for the guidance on how projects should conduct VMT analysis moving forward.

Plans and amendments to the Regional Plan are evaluated in comparison to the Regional Plan and have either used the TRPA transportation model to show changes in VMT or have conducted an analysis

[3] In some cases these may be the regional access trip versus a local trip.

similar to the one outlined above. Projects that involved changes to the roadway network have compared the change in mileage of the new roadway network to the old network, multiplying this by a 20-year forecast of average daily traffic, and adjusting for changes in traveler behavior (induced travel) based on the new roadway configuration.

Analysis of the VMT Impact of Projects that Generate 200 Daily Trips or Less

As noted above, the trigger for requiring a project to conduct a VMT analysis and thus fully assess VMT impacts is trip generation of more than 200 trips. Because trip lengths vary from project to project, the VMT impact associated with 200 trips or less is unknown and would differ for every project. To better understand the range of VMT that could be generated by projects that are not currently required to conduct a detailed transportation analysis, TRPA examined several example projects and the amount of VMT they could be expected to generate at a project level, based on average trip lengths produced by the TransCAD model multiplied by trip generation rates from the ITE Manual, 10th Edition. While the analysis below assumes that all of this new development is greenfield development (i.e., a new project on a parcel which previously did not have any development), in actuality most projects, particularly tourist and commercial projects, are redevelopment projects that replace existing uses and VMT. The analysis below does not account for any changes to region-wide VMT based on the replacement of existing uses.

Note that the environmental analysis for the 2012 Regional Plan assumed full build-out of all available development rights for the 2035 forecast year. Because the TRPA's VMT threshold was anticipated to be exceeded in the forecast year, mitigation for the allocation of these development rights was included in the Regional Plan and the RTP/SCS. Also, implementation of VMT-reducing projects from the Regional Transportation Plan are integrated into project requirements. New multi-family, commercial, tourist, and public service projects, including those that generate 200 daily trips or less, are required to implement the RTP/SCS through the Active Transportation Plan Checklist[4] by providing easements for bicycle trails and end-of-trip facilities for bicyclists and pedestrians.

Residential

Single-family residential

The most common projects that generate less than 200 trips are single-family residential projects. Single-family residential projects are assumed to generate 9.44 daily trips.[5] The average vehicle trip

[4] http://www.trpa.org/wp-content/uploads/ATP%20Checklist%20FINAL%20Fillable.pdf

[5] ITE Trip Generation Manual, 10th Edition, Land Use 210. The TRPA Trip Table assigns them a trip rate of 10.0, for ease of calculation.

length for a residential trip is 4.7 miles.[6] Thus, one single-family residential home would generate approximately 44 daily VMT, which is 0.002% of the TRPA threshold of 2,030,938. Each year, 120 allocations are released to the local jurisdictions (plus another 10 to the TRPA pool for allocation assignments). If all 120 of these allocations were used, they would generate approximately 5,335 VMT per year, or 0.3% of the TRPA threshold. Since 2013, jurisdictions have averaged a use of only 63.5 allocations pear year,[7] which would generate 2,823 VMT, or 0.14% of the threshold.

Note that the daily trip generation rate assumes that the home is fully occupied. Since approximately 60 percent of Lake Tahoe Basin homes are second homes, not all homes constructed are occupied at all times during the year. While a peak summer day (the day for which VMT is evaluated)[8] is a day in which second homes are more likely to be occupied, some second homeowners use their homes exclusively in winter, or during other summer periods, not the peak summer day. Thus, the daily VMT estimate is conservative, as it assumes full occupancy, which is not the norm for Lake Tahoe homes.

Multi-family

Multi-family residential projects that are under the 200-trip threshold in Lake Tahoe most closely match the "Multi-family Housing (Low-Rise)" ITE Trip Generation Category. In this category, a multi-family unit is estimated to generate 7.32 daily trips per unit,[9] with an average residential trip length of 4.7 miles.[10] Thus, a 13-unit multi-family development would be expected to generate less than 100 trips, and 27 units would be expected to generate less than 200 trips. The 13-unit multi-family development would generate approximately 450 daily VMT (0.02% of the threshold), and a 27-unit multi-family development would generate approximately 930 daily VMT (0.05% of the threshold).

Multi-family developments can be either market-rate, or deed-restricted for affordable, moderate, or "achievable" homes. Those that are deed-restricted cannot be used as second homes or short-term rentals, therefore they are likely to have a high occupancy rate. The ITE trip generation rate for multi-family is based on a 96.2 percent occupancy rate which is likely higher than that generated by the average multi-family development in Tahoe, as multi-family development in Tahoe is a mix of deed-restricted and market-rate, and some of the market-rate apartments could be sold as second homes which may sit empty even on a peak summer day. Thus, these VMT estimates for multi-family are likely conservative estimates.

Tourist Accommodation

[6] TRPA Transportation Model, 2014 Base Year, Trip File, with non-auto trips and external VMT subtracted out.
[7] Ken Kasman, TRPA Research and Analysis Division, e-mail correspondence February 15, 2019
[8] Modeled for a day in late August.
[9] ITE Trip Generation Manual, 10th Edition, Land Use 220
[10] TRPA Transportation Model, 2014 Base Year, Trip File, with non-auto trips and external VMT subtracted out.

Tourist accommodation units are estimated to generate 8.36 daily trips per unit,[11] with an average trip length for overnight visitors of 7.7 miles.[12] An 11-unit hotel would be the largest tourist project that would generate less than 100 trips and could be expected to generate 708 daily VMT (0.04% of the threshold). A 23-unit hotel is the largest tourist development that would generate less than 200 trips, at 1,481 daily VMT (0.07% of the threshold).

Since 2013, no new tourist accommodation units have been distributed – new projects have used transferred units.[13]

Commercial

Commercial projects can comprise many different land-uses and attract both residents, external workers and visitors. They generate different trip rates depending on the type of uses included in the development. As part of its Development Rights Strategic Initiative which was approved by the TRPA Governing Board in October 2018, TRPA developed a weighted average trip generation rate based on the mix of existing commercial uses in Tahoe. This trip rate is 31.68 trips per 1,000 square feet of gross floor area.[14]

Typical commercial projects that generate less than 200 trips for which applications have been received over the last six years have included:

[11] ITE Trip Generation Manual, 10th Edition, Land use 310, average occupancy rate of 82 percent.
[12] TRPA Transportation Model, 2014 Base Year, Trip File, with non-auto trips and external VMT subtracted out.
[13] Ken Kasman, TRPA Research and Analysis Division, e-mail correspondence February 15, 2019.
[14] The Development Rights Strategic Initiative Code amendments were approved by the TRPA governing board in October 2018.

Description of Commercial Project	Average Daily Trip Rate	Average Trip Length	Estimated Daily Trips	Estimated VMT
6,000 square feet of general commercial/office	20.7 per 1,000 square feet (average of TRPA's general commercial rate (31.69) and ITE General Office (9.74))	7.2 miles (weighted average of Recreation, Shop, Eat, Work, AtWorkOther, and External Work trip lengths	127 Daily Trips	913 Daily VMT (0.05% of threshold)
5,000 square feet of general office	9.74 per 1,000 square feet (ITE General Office)	6.0 miles (weighted average of Work, AtWorkOther, External Work trip lengths)	49 Daily Trips	292 daily VMT (0.014% of threshold)
13,000 square feet of general office	9.74 per 1,000 square feet (ITE General Office)	6.0 miles (weighted average of Work, AtWorkOther, External Work trip lengths)	127 Daily Trips	760 daily VMT (0.04% of threshold)

On average, local jurisdictions have issued around 7,000 square feet of CFA each year from their allocation pools for projects that have been constructed since 2013.[15] Using an average trip generation rate of 31.68 trips per 1,000 square feet of CFA, 7,000 square feet of CFA could be expected to generate approximately 222 trips.

[15] Ken Kasman, TRPA Research and Analysis Division, e-mail correspondence February 15, 2019.

Air Quality Mitigation Fee

Basis for Air Quality Mitigation Fee

The basis for TRPA's Air Quality Mitigation Fee is established in the Goals and Policies. Policy 2 of Goal #4 of the Development and Implementation Priorities Sub-element states:

> *ALL PROJECTS SHALL OFFSET THE TRANSPORTATION AND AIR QUALITY IMPACTS OF THEIR DEVELOPMENT.*
>
> *The implementing ordinances for the Regional Plan will define stationary sources of air pollution which may locate in the Region, and define what constitutes a significant environmental impact on air quality from stationary sources. Commercial and residential development contribute indirect impacts to air quality by increasing the number of vehicle trips in the Region. The cumulative impact of such trips is significant.*
>
> *The ordinances will establish a fee to offset the impacts from minor projects. The fee will be assessed on both commercial and residential development. The ordinances will also define what projects have significant environmental impacts; these projects will be required to complete an EIS and mitigate air quality and traffic impacts with specific projects or programs.*

Current Air Quality Mitigation Fees

Section 10.8.5 of the Rules of Procedure establishes Air Quality Mitigation fees. The current fees, which were last updated in 2007, are as follows:

A. Air Quality Mitigation Fee

1. TRPA shall assess an air quality mitigation fee according to the following schedule:

a. For new residential units - $325.84/daily vehicle trip.

b. For new tourist accommodation units - $325.84/daily vehicle trip.

c. For new campground site or recreational vehicle site - $325.84/daily vehicle trip.

d. For new commercial floor area - $36.20/daily vehicle trip.

e. For all other development - $36.20/daily vehicle trip.

Section 10.8 also identifies when the fees should be updated:

> *2. TRPA shall review the fee schedules in this subsection in light of the costs of needed improvements and the funds available to support those improvements and recommend adjustments to the fee schedules as appropriate.*

Development of Air Quality Mitigation Fees

Historically the air quality mitigation fees listed in the Rules of Procedure are developed by dividing the forecasted cost of air quality mitigation projects needed to mitigate new development by the number of vehicle trips expected to be generated by that new development. The year 2002 was the last time that the fee was tied directly to the cost of mitigation projects. In 2002, the air quality mitigation fee was updated using a five-year averaging method:

The TRPA Environmental Improvement Program (EIP) estimated that from FY 2002 through 2006, approximately $94.0 million would be needed to implement the Mass Transit, Bicycle and Pedestrian projects on the EIP project list for transportation and air quality projects. By the year 2006, internal daily vehicle trips were estimated to increase by 19,963, or 6.572 percent, with region-wide vehicle trips increasing to 303,747. Using an averaging method, growth should pay for 6.572 percent of $94.0 million, or $6.18 million. $6.18 million was divided by 19,963 trips to obtain approximately $300 per trip.

The 2002 staff memo further explained how this $300 per trip was divided between trip attractors (residential and tourist uses) and trip generators (commercial, recreation, etc. uses). Each daily vehicle trip has two trip ends. One end is a production, the other end is an attraction. The “beds” account for the productions (houses, hotel/motel rooms, campgrounds, etc.) because they produce a vehicle trip. Commercial business, and recreation areas attract vehicle trips.

TRPA has historically divided the fee associated with each daily vehicle trip between the production and attraction trip ends. This fee may be divided equally, or it can be weighted toward either production or attraction trip end. Since 1987, TRPA has weighted the production end of a vehicle trip at 90 percent, and the attraction end of the trip at 10 percent.

Based on the $300 per daily vehicle trip end (DVTE) fee shown above, and rounding the fees for the production and attraction ends, the fee schedule in 2001 was determined to be:

- Commercial Trips: $ 30.00 per DVTE
- Residential/Production Trips: $270.00 per DVTE

In 2007 TRPA again updated the fee, this time by increasing the fees established in 2002 by the increase in the California Construction Cost index. The fees were increased to $36.20/DVTE for commercial

development, and $325.84/DVTE for residential development. These are the fees in place today, as noted above.

Use of Air Quality Mitigation Fees

Code Section 65.2.6 discusses the use and distribution of Air Quality Mitigation Funds. The code reads:

> *65.2.6. Use and Distribution of Mitigation Funds*
>
> *A. TRPA shall deposit air quality mitigation funds in a trust account. Interest accruing to the trust account shall remain in the account until used on air quality mitigation projects. TRPA shall keep track of the amount of funds collected for each local jurisdiction, with interest, and shall disburse funds to the local jurisdiction, or to the Tahoe Transportation District at the local jurisdiction's request, for expenditure within the jurisdiction of origin, provided TRPA finds that the expenditure is consistent with TRPA's Regional Transportation Plan or the 1992 Air Quality Plan. Pursuant to subparagraphs 65.2.4.C.2 and 65.2.5.C.2, certain funds may be identified for the construction of specific projects. By October 1 of each year, the recipient shall submit to TRPA an annual report of the funds expended as of June 30 each year.*
>
> *B. As an alternative to distributing air quality mitigation funds to the jurisdiction of origin, a portion of the air quality mitigation funds may be distributed across jurisdictional boundaries to support projects of regional priority that are specifically identified in a regional capital improvement program developed in cooperation with local jurisdictions, such as the Five Year Environmental Improvement Program (EIP) Priority Project List.*

The air quality mitigation fund currently generates approximately $420,000 annually region-wide. In recent years funds have gone towards bicycle and pedestrian trails, the purchase of transit buses and shelters, alternative fuel buses and support facilities, street sweepers, and complete streets projects.

Looking forward, the overall amount of air quality fees collected and the amount collected per project could shift if the fees were re-evaluated against the most recent Regional Transportation Plan, or if the factors that go into calculation of the fee were modified. An example of a modification to the factors would be if the air quality mitigation fee calculation incorporated project impact on regional vehicle miles traveled, instead of limiting the calculation to daily vehicle trip ends.

Screening Criteria

The screening criteria are designed to identify projects that will have a less than significant impact on VMT, either through project design or by supporting the compact development goals of the Regional Plan, which mitigates planned growth through the Regional Transportation Plan. All projects, large and small, need to mitigate their impacts on air quality through mitigation measures, payment of the air quality mitigation fee, or both (TRPA Code 65.2). The "Background" section above provides more details on this. All projects must show that they have a less-than-significant effect on VMT. Projects will be presumed either to have a less-than-significant effect on VMT or that any marginal growth in VMT is mitigated through the Regional Transportation Plan and will be exempt from the in-depth VMT evaluation described in the "VMT Methodology" section below if they meet any one of the following criteria:

For transportation projects:

1. Bicycle, pedestrian, and transit projects included within the most recent RTP/SCS; or
2. New bicycle lanes or sidewalks; or
3. Bicycle or pedestrian improvements to the roadway system, such as "green lanes," bike boxes, pedestrian-activated crossings, or similar; or
4. Amendments to the RTP/SCS to include new bicycle, pedestrian, and transit projects, excluding microtransit,[16] located within ½ mile of a transit stop, within the boundaries of the City of South Lake Tahoe, or within the boundaries of a Regional Center, Town Center or Tourist District; or new bicycle, pedestrian and transit projects, excluding microtransit, not included in the RTP/SCS but which are located within ½ mile of a transit stop, within the boundaries of the City of South Lake Tahoe, or within the boundaries of a Regional Center, Town Center or Tourist District.

For land-use projects (residential, commercial, tourist, public service, mixed-use, recreation, assembly, and entertainment) and plan amendments:

5. Generates less than 100 additional vehicle trips per day;[17] or
6. Is deed-restricted 100% "affordable" residential housing located in a Town Center and utilizes parking rates less than the minimum parking rates established by the local jurisdiction, unless those minimum parking rates already incorporate reduced parking demand for affordable housing or other design or locational elements. "Affordable" housing is defined as residential housing, deed-restricted to

[16] Microtransit is defined as a privately-operated transit system. Source: http://www.fehrandpeers.com/microtransit/.

[17] Projects that generate between 100 and 200 trips per day will be required to complete a VMT analysis, but not a full transportation analysis (i.e., impacts on level-of-service, air quality, ingress and egress will not be required.)

be used exclusively for lower-income households (income not in excess of 80 percent of the respective county's median income) and for very low-income households (not to exceed 50 percent of the respective county's median income).

Deed-restricted affordable housing in the Tahoe Region is intended to house local working households, seniors, or people with disabilities, to relieve overcrowded living conditions, and to reduce commuting from outside the Region. Affordable housing located in Town Centers contributes to achieving the TRPA VMT threshold by two means: 1) fulfilling Regional Plan goals for compact, walkable development that provides the lowest-impact locations for housing and supports the future viability and expansion of transit and reduced parking needs;[18] 2) requiring that any new trips generated by the project will be subject to the Air Quality Mitigation Fee, which helps implement the Regional Transportation Plan (RTP). The RTP is an integral element of the 2012 Regional Plan, and RTP projects are the main tool for offsetting VMT generated by planned growth. Further, affordable housing in Lake Tahoe will improve the jobs-housing fit by providing housing at a cost that matches local wage levels, and better jobs-housing fit is correlated with reduced commute distances. Studies from outside of the Basin have shown that lower-income resident-occupied households generate less VMT than market-rate resident-occupied households in areas where the jobs-housing fit is better. [19] [20] This analysis aligns with research conducted by the State of California, which supports a presumption of less-than-significant impact for affordable residential development.[21]

VMT Methodology

The VMT Methodology will vary for different project categories. Both a calculation-based option (i.e., the applicant must show the steps of their calculations) and a model-based option (directly using TRPA's TransCAD transportation model) are presented for most project categories. The model-based option will be the preferred option in the future, as it will provide a more complete understanding of the project's effect on regional VMT, whereas the calculation-based option is more limited in its capacity to truly

[18] Average trip lengths by Transportation Analysis Zone (TAZ) from the TRPA's transportation model show that TAZs in Town Centers or closer to transit have lower average trip lengths. Average Trip Length by TAZ Map available at: https://trpa-shiny-apps.shinyapps.io/Avg_Trip_Lengths/.

[19] Karner and Benner (2016), *The convergence of social equity and environmental sustainability: Jobs-housing fit and commute distance*.

[20] Chapple et al. (2017). *Developing a New Methodology for Analyzing Potential Displacement, available at https://www.arb.ca.gov/research/apr/past/13-310.pdf.*

[21] California Office of Planning and Research (2018), *Technical Advisory an Evaluating Transportation Impacts in CEQA.*

capture regional effects. Until the model is updated and validated, however, the calculation-based option is recommended.

As projects apply for permits, TRPA will work with project applicants to test a model-based analysis. Until this methodology is finalized, it is recommended that applicants also use the calculation-based analysis. Both options are described below for each category. New roadway and bicycle trail projects will not have a calculation-based option but will be required to use the TRPA's modeling tools as described below (bicycle projects use a model separate from the TransCAD model). All analyses should be conducted for a peak summer day in August, to be consistent with TRPA's Travel Demand Model analysis timeframe. If the land-use of a particular project does not fit any of the categories described below, the project applicant should consult with TRPA. TRPA will make a determination as to which category is the most appropriate to use for the project's VMT analysis.

The result of the VMT analysis will include the expected change in VMT attributable to the project, and the tables, calculations and assumptions supporting the VMT estimate, as described below. Where project effects are expected to change over time, analyses should consider both a project's short-term and long-term effects on VMT.

Category 1: Commercial, Office, Residential, Lodging, and Mixed-Use Projects

Because the TRPA's TransCAD model is designed to model regional VMT, it may not be well-suited to analyzing changes at the project-level. As part of the testing of the model methodology outlined in this document, TRPA will determine what size of project may be reliably modeled. If the model is not sensitive to projects of the size normally seen in the Tahoe Region, staff will evaluate the resources needed to include such an upgrade through its model update plan.

Both a calculation-based and model-based methodology are included below. TRPA recommends that projects use the calculation-based methodology while TRPA is further developing the model-based methodology.

Category 1 Calculation-Based Methodology

1. Identify the Traffic Analysis Zone (TAZ) in which the project is located. A TAZ map is available on tahoeopendata.org.
2. Identify all land-use types included in the project by number of units (homes, square footage, etc.).
3. Identify trip rates for each land-use type using the TRPA Trip Table or best available surveys. In the absence of Tahoe-specific surveys, applicants should research trip-generation studies from other, similar areas such as resort areas. Project applicants are encouraged to conduct Tahoe-specific surveys where feasible.
4. Multiply the trip rate by the number of units for each land-use to obtain total trips by land-use.
5. Identify the proportion of total trips for each land-use by trip-type. All trip-types shall be based on the TRPA's transportation model. See Table 1 for a complete list of trip-types. The applicant must show the rationale for assumptions used for apportioning total trips to each trip-type (for instance, the percentage of employee work trips versus patron shopping trips for a certain land-use). For residential and overnight visitor trips, applicants have the option of using a standard proportion of trip types, shown in Table 2.

Table 1: TRPA Transportation Model Trip-Types for calculating VMT

Trip Types (all trip types include internal trips and trips with one external trip end)
Gaming
Recreation
Shopping
Eat
Maintenance (household maintenance errands such as picking up the mail)
Discretionary (doctor visit, visiting friends)
School (trips made by children and college students)
Work (a trip to or from work to begin or end the work day, includes residential work trips and External Work trips made by workers commuting in and out of the Basin)
AtWorkOther (trips that begin and end at the workplace (such as a lunch-time trip))
Combo Work (combines "Work" and "AtWorkOther" from above)[1]
Escort (picking up or dropping someone off)
Source: Lake Tahoe Resident and Visitor Model, Model Description and Final Results, August 2007. Trip lengths include both trips internal to the region and those that start from an external location. Note 1: Note that "Combo Work" overlaps with "Work" and "AtWorkOther." Any of these may be used by themselves, and "Work" and "AtWorkOther" may both be used together, but "Combo Work" cannot be used if either "Work" or "AtWorkOther" are used.

Table 2: Proportion of Trips by Trip-Type for Residential and Overnight Visitor Uses

Residential	
Work	17%
At Work Other (trips that begin and end at the workplace (such as a lunch-time trip))	13%
Shop	21%
Discretionary (doctor visit, visiting friends)	20%
Escort (picking up or dropping someone off)	13%
Maintenance (household maintenance errands such as picking up the mail)	8%
Eat	8%
Source: 2005 Tahoe Regional Household Survey	
Overnight Visitor	
Recreation	40%
Gaming	14%
Shopping	11%
Other	35%
Source: TRPA 2004 Overnight Visitor Survey.	

6. Adjust trips to account for internal capture (mixed-use projects only), pass-by, and non-auto trips.
    a. *Internal capture*:
        i. Determine the percent of project-based resident and overnight visitor trips that will be captured on-site based on the project's land uses using the Institute of Traffic Engineers Trip Generation Handbook, 3rd Edition, 2017, Internal Capture methodology. Provide sources for assumptions.
        ii. Multiply the percent of internal trip capture for each use by the percentage of residents and overnight visitor trips making up each residential or lodging use (recall that, for instance, lodging trips might be generated primarily by overnight visitors but a small proportion may also be generated by employee trips). The approximate percentage of resident and overnight visitor trips making up each use should be available from the applicant as part of market studies or other business planning.
        iii. Reduce the residential and overnight visitor trips by the internal trip capture rate. Reduce the number of trips in each category of trip type for the commercial or office uses by the correct internal trip capture rate by use. The total number of commercial trips reduced should match the total number of resident and overnight visitor trips reduced.

    b. *Pass-by*: Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. For example, a person stopping at the grocery store along their regular route home from work would be considered to generate a pass-by trip. No additional vehicle trips are added to the external roadway network. Identify the appropriate pass-by rate for shopping- and maintenance-related land-uses. Use either locally generated data or ITE pass-by trip rates. Provide sources for the pass-by rate assumptions.

    c. *Non-Auto Trips*:

    In most cases the trip generation rates from the TRPA's Trip Table will already take into account non-auto trips. If a project applicant can identify significant non-auto amenities in the vicinity of the project and documented evidence that nearby uses experience lower vehicle trip generation, the applicant may develop a methodology by which to take additional reductions for non-auto trips based on existing non-auto facilities and services. Proposed non-auto facilities and services in most cases will be considered mitigation and should be analyzed as such.

7. Once trips have been reduced for internal capture, pass-by, and non-auto trips, identify the appropriate trip length for each trip-type by Traffic Analysis Zone (TAZ) using TRPA's Trip Length Table (Tables 3 and 4, in Attachment B). If a project has documentation to support using different trip lengths specific to that project, those trip lengths may be used instead of the trip lengths in Tables 3 and 4.[22]

8. For each land use, multiply the number of trips in each trip-type category by the associated trip length. Sum the results from each land-use category to obtain overall project-generated VMT.

9. In order to disclose the impact of the project on regional VMT consider the effects of the addition of the new project and the removal of any existing uses on regional VMT. The following should be considered in this section of the analysis:
   a) Is a locally-serving commercial use being replaced with a new use, and if so, what will the impact of that removal be on local trips and trip lengths? Will trips now lengthen to account for the need to travel further to obtain the missing good or service?
   b) Or will the new use attract trips that were previously made to a more distant location?
   c) Are the new uses locally-serving?[23]

10. Was the use being replaced in operation, and if so, was it operating at capacity? Quantify this in the analysis to the extent possible and add to or subtract VMT from the number generated in Step 8. Where the analysis produces a range of final VMT estimates, select the highest end of the range, to provide a more conservative (i.e. higher) VMT estimate.

[22] The trip lengths in the trip table already account for the fact that some trips to that TAZ for that use are longer regional access trips (for instance, the trip that an overnight visitor makes when first arriving to Tahoe) versus shorter, more local trips. If the applicant wishes to generate a more detailed analysis differentiating between regional access and local access trips, they may do so, but must provide documentation supporting the trip length assumptions.

[23] The TRPA Trip-Table (https://www.trpa.org/attachment_a_trip_table_2019/) identifies which types of uses may be considered locally-serving. The project proponent must provide substantial evidence verifying that the project's purpose is to provide local-serving retail. Evidence can include market studies or documentation of the planned uses, with verification by TRPA staff that these uses in the Tahoe Basin are locally-serving.

Category 1 Model-Based Methodology

This will be the preferred methodology if TRPA can establish the sensitivity of its model to individual residential, commercial, office, lodging, and mixed-use projects.

1. TRPA will provide the applicant with a copy of the input file to the TransCAD model for either the base year or the appropriate forecast year if the project is scheduled to be constructed more than four years in the future. This file includes land-use assumptions for the base or forecast year, including the expected number of housing units, lodging units, camping spaces, and employees by TAZ based on what is on the ground and/or what will be allowed by the forecast year based on the Regional Plan. The applicant will be required to update this file with anticipated increases or decreases in units and employees by TAZ based on project specifications. Where the applicant has knowledge of income levels associated with the new project (for instance in the case of deed-restricted affordable housing), the income level field in the input file for that TAZ should be modified accordingly.

The applicant will return the updated TransCAD input file to TRPA. TRPA staff will run the model using the updated input files and will also run the model using the unmodified input file. The difference between the VMT result from the project's model run and the unmodified input file model run will be considered the change in VMT attributable to the project.

Category 2: Public Service (government offices, schools) and Recreation, Assembly and Entertainment

This memo outlines two methodologies for Category 2 – a off-model calculation, and a model-based methodology. TRPA recommends use of the near-term methodology while we are further developing the long-term model-based methodology.

Category 2 Calculation-Based Methodology (Near-Term)

This methodology is calculation-based (applicants must show their calculations).

1. Identify the Traffic Analysis Zone (TAZ) in which the project is located. A map of TAZs is available on tahoeopendata.org.

2. Identify all land-use types included in the project by number of units (square footage, seats, acres, etc.).

3. Identify trip rates for each land-use type using the TRPA Trip Table, or best available surveys. In the absence of Tahoe-specific surveys, applicants should research trip-generation studies from other, similar areas such as resort areas. The applicant is encouraged to conduct a Tahoe-specific survey or survey of the specific land-use type for land-uses not well-represented in the TRPA Trip Table or ITE Manual. The survey may be based upon the applicant's knowledge of project specifics, such as the number of employees or the number of seats in the venue.

4. Multiply the trip rate by the number of units for each land-use to obtain total trips by land-use.

5. Identify the proportion of total trips for each land-use by trip-type. All trip-types shall be based on the TRPA's transportation model. See Table 1, above for a complete list of trip-types. The applicant must show the rationale for assumptions used for apportioning total trips to each trip-type (for instance, the expected number of employee work trips versus patron recreation trips for a certain land-use).

6. Adjust trips to account for internal, pass-by and non-auto trips if appropriate using the methodology in Step 6, Category 1, above.

7. Identify the appropriate trip length for each trip-type by Traffic Analysis Zone (TAZ) using TRPA's Trip Length Table (Table 3, Attachment B).[24] If a project has documentation to support using different trip lengths specific to that project, those trip lengths may be used instead of the trip lengths in Table 3.

8. For each land use, multiply the number of trips in each trip-type category by the associated trip length to obtain VMT by land-use. Sum each of these for overall project-generated VMT.

9. Consider the effects of the addition of the new project and the removal of any existing uses on regional VMT. For instance, if a locally-serving commercial use is being replaced with a new use, what will the impact of that removal be on local trips and trip lengths? Will trips now lengthen to account for the need to travel further to obtain the missing good or service? Will the new use attract trips that were previously made to a more distant location? Was the use being replaced in operation, and if so, was it operating at capacity? Quantify this in the analysis to the extent possible and add to or subtract VMT from the number generated in Step 10. Where the analysis produces a range of final VMT estimates, select the highest end of the range, to provide a more conservative VMT estimate.

10. If the applicant or TRPA staff has reason to believe that a more accurate VMT estimate may be obtained by conducting a more detailed analysis than the one outlined here, the applicant may choose to or may be asked to expand upon any of these steps. For instance, the applicant may need to split recreation trips into "close-proximity" and "far-proximity" trips or "regional access" and "local access" trips in order to apply different trip lengths to each group, rather than using the average trip length for recreation trips linked to the TAZ in which the project is located. If a new recreation use is planned for a TAZ in which there were no similar previous recreation uses, TRPA may require the applicant to conduct additional research to establish appropriate trip lengths for that use in that TAZ. Sources for all assumptions must be provided. TRPA will provide the raw trip table output from the model upon request.

[24] The trip lengths in the trip table already account for the fact that some trips to that TAZ for that use are longer regional access trips (for instance, the trip that an overnight visitor makes when first arriving to Tahoe) versus shorter, more local trips. If the applicant wishes to generate a more detailed analysis differentiating between regional access and local access trips, they may do so, but must provide documentation supporting the trip length assumptions.

Category 2 Model-Based Methodology

It may be possible to modify TRPA's transportation model to approximate VMT generated by a public-service or recreational project, two projects types for which the model is not currently designed to analyze. Two potential methods for modifying the model are outlined below. TRPA will work to test one or both methods and may also identify other methods through the Model Working Group. The cost and timing for modifying the model will be considered through a longer-term model update plan.

<u>Model-Based Method 1: Manual Comparison, Employees as Proxy for Unique Land Use</u>

1. Using the methodology outlined above, in the *"Category 2 Calculation-Based Methodology"* section, generate trips manually for the project.
2. In the base year model input file (or forecast year if the project is anticipated to occur four years or more in the future), make changes to the number of employees in the TAZ in which the project will be located so that the number of employees generates the same number of trips estimated manually in Step 1. The analyst may also consider modifying the attraction factor of that TAZ, instead of, or in combination with modifying the number of employees.
3. Run the model. Using the model output files (trip summary file), compare the trips coming and going from the TAZ in which the project is located to the trips generated manually in Step 1. If they are different, adjust the employment levels (or attraction factors) and re-run the model. Complete these steps until the model outputs match the trips generated manually.

<u>Model-Based Method 2: Big Data Comparison, Modify Trip Table</u>

1. Obtain mobile-device and traffic count data from time periods and locations in which a similar land-use operated.
2. From the mobile-device data, identify travel patterns that are similar to those that would occur with the new land-use.
3. Edit the trip table from the appropriate model year run to match the travel patterns found in the mobile device data.
4. Insert the trip table back into the model, complete the model run.
5. The difference in VMT between the model run using the modified trip table and a model run that uses the unmodified trip table will be the project impact on regional VMT.

Category 3: Transportation Projects

A variety of transportation projects may need to conduct a VMT analysis. Per the screening criteria above, certain transportation projects do not need to conduct a VMT analysis. These include:

1. Bicycle, pedestrian, and transit projects included within the most recent RTP/SCS.
2. New bicycle lanes or sidewalks.
3. Bicycle or pedestrian improvements to the roadway system, such as "green lanes," bike boxes, pedestrian-activated crossings, or similar.
4. Amendments to the RTP/SCS to include new bicycle, pedestrian, and transit projects, excluding microtransit,[25] located within ½ mile of a transit stop, within the boundaries of the City of South Lake Tahoe, or within the boundaries of a Regional Center, Town Center or Tourist District; or new bicycle, pedestrian and transit projects, excluding microtransit, not included in the RTP/SCS but which are located within ½ mile of a transit stop, within the boundaries of the City of South Lake Tahoe, or within the boundaries of a Regional Center, Town Center or Tourist District.

Other projects should follow the methodology below.

Changes to the roadway network:

TRPA will request that the applicant provide three pieces of information:

1. A GIS file showing the location and geometry of the proposed roadway project (if applicable).
2. A description of the relevant roadway project characteristics such as multidirectional capacity, lanes, functional classification, and speeds (if applicable). TRPA will provide a form that outlines the requested roadway characteristics.
3. The anticipated construction year for the project.

Once the requested information is received, TRPA will model the project by changing the roadway network data in the most applicable model scenario (either base-year or a forecast year) and then re-running the model. As noted above, the model will need to be tested for sensitivity to induced travel effects before this methodology can be finalized.

[25] Microtransit is defined as a privately-operated transit system. Source: http://www.fehrandpeers.com/microtransit/.

Bicycle paths:

New bicycle paths that do not meet the screening criteria should utilize the Bike Trail User Model methodology to calculate the increase or decrease in VMT attributable to the project. The Bike Trail User Model instructions contain detailed guidance on how to calculate the network effects of adding connections to the bicycle trail network, and project applicants should be sure to apply the full methodology. This will be considered to account for the bicycle path's impact on regional VMT. The methodology can be found on the LT Info website: https://monitoring.laketahoeinfo.org/BikePed.

Category 4: Regional Plan Amendments

Regional Plan amendments could include amendments to the Code of Ordinances, amendments to the Goals and Policies, and new Area Plans or Area Plan amendments that go beyond what was considered in the Regional Plan and associated environmental analysis.

Where the proposed changes to the Regional Plan involve additions to residential units of use, tourist accommodation units, camping spaces, or commercial floor area, the TRPA will analyze these changes using the TransCAD model per the guidance below. Where changes to land-uses are proposed that cannot be analyzed using the TransCAD model, analysis of VMT for these new land uses shall utilize the guidance under Category 2.

Category 4 Modeling Regional Plan Amendments using the TransCAD Transportation Model

1. TRPA will provide the applicant with a copy of the Regional Plan input file to the TransCAD model for the 2040 forecast year. This file includes land-use assumptions for the forecast year, including the expected number of housing units, lodging units, camping spaces, and employees by TAZ based on what is allowed in the Regional Plan. The applicant will be required to update this file with anticipated increases or decreases in units and employees by TAZ based on proposed policies in the Regional Plan amendment. For example, if an Area Plan Amendment were to increase densities outside of Town Centers, the applicant would need to update the input file with additional housing units in TAZs where the additional density was proposed and reduce the number of anticipated housing units in other TAZs by the same amount. TRPA will provide additional guidance on how to ensure that reductions to anticipated development are distributed proportionately throughout the region.

2. The applicant will return the updated TransCAD input file to TRPA. TRPA staff will run the model, including applying the Trip Reduction Impact Analysis (TRIA) post-processor spreadsheet tool for the forecast year using the updated input files. The difference between the VMT result from the Regional Plan amendment model run and the Regional Plan model run will be considered the change in VMT attributable to the Regional Plan amendment.

Category 5: Other Projects

Other projects not falling into Categories 1-4 or not meeting the screening criteria will still be required to analyze their VMT impacts. The process for this analysis should be determined with TRPA staff.

Attachment A

Table of VMT Base Year Estimates and Corresponding Threshold Values

Base Year	Base Year VMT	VMT Threshold	Source
2005	2,079,849	2,000,000	2005 VMT: 2008 Regional Transportation Plan, page 62. The RTP did not state the actual threshold but instead stated that the 2005 VMT was 6.5 percent below 1981 levels.
2010	1,984,600	2,067,600	2012 Regional Plan Update EIS, page 3.3-3.
2011	2,036,642	2,067,600	2011 Threshold Evaluation, Chapter 3, Air Quality, page 3-50
2014	1,937,070	2,030,938	2015 Threshold Evaluation, Chapter 3, Air Quality, page 3-60

Attachment B

Tables 3 and 4

Trip Lengths by Trip Type and Traffic Analysis Zone (TAZ)

The trip lengths in the following tables are generated from the TRPA's transportation model. They reflect both trips internal to the region, and trips with one point external to the region. VMT from outside the Basin boundaries is not included. Thru-trips are not included. Not all TAZs have trips for each trip type. Where no trips of a certain trip type occur, "n/a" appears.

A map of Average Trip Lengths by TAZ may be found here: https://trpa-shiny-apps.shinyapps.io/Avg_Trip_Lengths/

Table 3
Trip Lengths (in miles) by TAZ for Residential and Lodging Projects

	RESIDENT								OVERNIGHT VISITOR			
TAZ	Eat	Escort	Maintenance	School	Shop	Work	AtWorkOther (Work-based other)	Discretionary	Gaming	Recreation	Shopping	Other
9	3.2	2.4	2.9	3.4	4.6	4.3	0.9	3.4	9.0	7.2	2.9	3.7
10	3.9	3.0	3.2	6.8	3.8	4.3	1.0	3.6	4.9	6.8	3.6	2.7
11	3.2	2.3	3.2	3.2	3.9	4.0	1.1	3.2	5.1	7.0	3.0	3.3
12	3.2	2.4	3.5	2.8	3.9	3.8	1.3	3.2	14.6	8.4	3.7	3.1
13	3.0	2.6	3.1	3.0	4.2	4.0	0.9	3.3	3.8	5.6	3.8	3.6
14	3.5	2.3	3.6	2.8	4.6	4.2	1.5	3.6	15.5	7.7	4.2	4.3
15	3.2	2.1	3.6	3.5	4.0	4.5	1.5	3.8	12.6	7.2	3.5	4.4
16	7.2	n/a	n/a	n/a	4.2	4.1	1.6	4.5	n/a	n/a	n/a	n/a
17	3.9	2.5	3.7	4.6	6.3	4.6	1.7	3.6	9.0	5.4	4.1	6.4
18	3.3	2.4	3.3	2.5	3.7	3.7	1.2	3.2	8.1	7.3	3.7	3.6
19	2.6	1.9	3.3	2.0	3.6	3.6	1.2	3.3	5.4	5.1	3.0	4.1
20	2.5	2.1	2.9	2.7	2.8	3.6	1.1	3.1	5.5	6.2	3.7	3.8
21	3.4	2.6	3.4	2.3	4.1	4.2	0.9	3.2	3.1	7.5	3.2	4.7
22	n/a	n/a	1.6	1.4	2.4	3.2	2.6	4.2	n/a	2.5	2.7	n/a
23	3.8	2.4	3.9	2.7	4.4	4.2	2.2	3.5	6.8	7.4	3.3	5.2
24	3.0	2.4	3.3	2.6	3.9	4.0	1.5	3.2	5.1	5.4	4.2	3.1
25	5.1	2.2	3.5	2.9	3.8	4.2	1.3	3.7	n/a	6.1	3.8	5.1
26	3.5	2.9	3.7	2.7	4.6	4.1	1.7	3.6	n/a	6.4	4.0	4.6
27	2.5	2.8	3.4	2.8	3.0	3.7	0.9	3.3	11.2	6.3	4.5	5.0
28	2.7	3.4	2.8	3.1	3.6	3.7	0.8	2.9	10.7	6.2	3.3	3.8
29	3.5	2.1	2.8	n/a	n/a	3.9	1.0	n/a	12.8	5.8	4.4	4.0
30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
31	3.4	3.2	3.2	4.1	3.7	4.2	0.9	3.7	2.7	4.8	4.1	4.4
32	3.6	3.2	4.0	3.9	4.2	4.9	1.7	3.8	8.4	8.3	4.4	5.7
33	3.8	2.5	3.9	3.3	4.3	5.0	2.7	3.6	8.2	7.6	8.4	5.0
34	3.6	2.5	3.9	2.7	4.4	4.1	2.8	3.9	2.8	7.1	3.7	4.8
35	3.5	3.0	3.3	3.2	4.4	4.8	1.9	4.0	n/a	10.0	4.2	4.0
36	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
37	3.4	3.0	3.8	2.5	3.9	4.2	1.7	3.5	4.5	6.8	3.6	4.3
38	3.9	2.6	2.9	2.4	4.0	4.3	1.2	3.4	5.7	8.6	3.3	4.6
39	2.9	2.5	3.3	2.4	4.0	4.1	1.2	3.2	6.5	7.8	3.9	4.6
40	3.2	2.5	3.2	2.6	3.3	3.5	1.8	3.2	11.4	5.0	6.1	3.3
41	3.0	2.5	3.6	2.7	4.0	3.8	2.0	3.3	5.0	9.6	4.3	4.3
42	3.0	2.6	3.4	2.3	3.7	4.3	1.4	3.2	8.3	5.8	3.7	4.1
43	4.0	2.4	3.4	2.4	4.0	4.3	1.4	3.3	5.7	6.9	4.9	5.1
44	3.4	2.9	3.8	3.7	4.8	5.4	1.2	4.3	7.7	7.7	4.3	4.4
45	4.4	3.0	4.6	3.5	4.4	5.7	2.2	4.3	9.2	9.8	3.8	4.6
46	2.8	2.7	3.0	2.7	4.3	5.0	2.0	3.6	8.1	8.1	4.6	3.3
47	3.0	2.3	3.0	2.6	3.5	4.5	1.1	3.1	12.0	6.2	5.0	4.8
48	3.5	2.4	3.6	2.7	3.8	4.4	1.5	3.7	6.4	7.9	3.7	4.2
49	3.2	2.3	2.9	2.9	3.5	4.3	1.2	3.0	8.4	6.9	5.1	5.9
50	3.3	2.1	2.7	3.4	3.0	3.8	0.9	3.2	18.2	6.1	4.9	5.3
51	2.7	2.4	4.3	2.9	4.0	4.9	1.2	4.2	7.5	5.8	2.6	5.3
52	3.0	2.5	2.7	3.2	3.8	4.6	1.5	3.6	7.8	9.8	3.8	3.9
53	4.3	3.0	3.2	3.1	4.4	4.2	2.2	3.8	5.0	9.1	4.1	5.4
54	3.6	2.3	3.1	3.5	4.0	5.1	2.2	3.7	8.7	8.9	3.5	3.7
55	3.6	2.9	n/a	4.1	n/a	5.1	n/a	n/a	n/a	n/a	n/a	n/a
56	3.3	2.3	3.2	3.2	3.5	4.5	0.8	3.4	7.4	8.9	5.6	5.2
57	3.2	1.8	2.8	3.2	2.7	3.8	0.9	3.1	n/a	5.0	4.1	5.2
58	3.9	2.3	3.4	3.2	3.5	4.2	1.2	3.5	9.1	7.3	4.9	5.4
59	3.4	2.4	3.4	2.9	4.1	4.7	1.2	3.5	8.4	8.6	4.5	5.1
60	3.7	2.4	3.3	3.3	4.2	4.4	1.6	3.7	8.4	6.4	4.2	5.1
61	3.7	2.6	2.7	2.5	3.0	3.6	0.9	3.3	11.4	7.1	4.4	4.7
62	3.2	2.4	3.1	2.9	3.2	3.7	1.0	3.2	9.5	6.8	4.7	4.5
63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
64	n/a	n/a	4.5	n/a	4.4	10.0	11.1	5.5	n/a	n/a	n/a	n/a
65	3.3	3.3	4.1	3.2	4.5	5.1	3.4	4.5	5.8	6.1	5.0	5.3
66	4.3	3.4	3.7	2.7	4.3	5.2	3.5	4.0	4.9	6.7	4.5	3.7
67	3.6	3.2	4.3	2.7	4.1	4.3	2.6	3.5	5.5	10.1	4.8	3.9
68	3.3	3.1	4.2	2.7	5.2	4.8	n/a	4.3	4.5	5.2	4.4	6.5
69	4.2	3.4	3.6	4.2	4.4	6.6	n/a	4.5	n/a	7.1	4.3	4.6
70	4.3	3.5	5.2	3.4	4.9	5.8	6.4	4.5	6.7	10.3	5.0	8.0
71	3.1	3.5	5.6	3.2	5.8	4.8	4.7	4.5	5.6	10.7	4.7	7.1
72	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
73	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
74	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	36.3
75	5.2	3.9	5.8	5.4	5.8	6.9	2.2	5.0	9.1	12.4	6.4	6.4
76	4.5	3.7	4.3	5.0	5.5	5.9	1.8	4.5	6.9	11.3	4.7	4.5
77	4.8	4.2	5.1	3.9	5.7	6.9	0.7	4.1	n/a	14.9	4.6	7.8
78	4.5	4.0	7.0	4.4	5.2	6.4	2.8	5.1	7.0	6.6	5.3	6.4
79	4.6	4.0	5.6	4.9	5.9	6.9	3.8	4.8	7.2	8.7	6.1	5.8
80	n/a	1.9	2.3	n/a	4.4	3.6	0.9	3.5	7.4	6.4	3.5	3.6
81	3.8	3.6	3.7	4.0	3.2	4.5	2.1	4.5	n/a	7.2	6.2	4.9
82	5.1	3.7	4.0	5.0	4.4	5.1	1.8	5.1	n/a	15.5	4.4	8.6
83	5.7	3.6	6.9	5.6	5.8	7.1	n/a	5.7	n/a	16.9	5.4	8.9
84	n/a	n/a	5.0	n/a	3.7	5.2	2.0	4.0	5.9	9.9	4.5	9.0
85	7.2	3.3	4.5	5.8	4.5	5.5	1.0	4.6	9.8	12.4	3.1	8.0

Table 3
Trip Lengths (in miles) by TAZ for Residential and Lodging Projects

	RESIDENT								OVERNIGHT VISITOR			
TAZ	Eat	Escort	Maintenance	School	Shop	Work	AtWorkOther (Work-based other)	Discretionary	Gaming	Recreation	Shopping	Other
86	5.1	3.8	5.3	6.7	4.5	6.5	1.1	4.4	7.9	8.4	6.5	5.2
87	10.2	9.9	4.5	8.0	5.1	8.3	n/a	5.8	n/a	8.6	7.2	16.2
88	6.8	3.8	5.1	6.9	5.6	9.4	2.9	5.6	32.6	8.6	5.4	7.0
89	14.9	n/a	8.0	11.2	7.5	10.7	6.4	5.5	n/a	13.3	9.4	12.9
90	8.3	n/a	8.9	7.0	7.1	9.0	n/a	6.3	n/a	13.8	8.6	11.3
91	4.4	3.4	5.9	6.4	5.1	8.1	5.0	5.1	11.1	11.1	8.8	7.4
92	6.2	5.7	6.8	8.1	6.3	9.7	3.6	6.1	14.6	11.8	7.5	8.5
93	n/a	n/a	0.5	n/a	5.2	6.1	n/a	n/a	6.9	11.2	6.4	9.9
94	8.0	4.6	6.0	7.0	4.4	8.7	n/a	5.1	n/a	10.2	7.3	4.9
95	5.0	3.7	5.9	6.2	7.7	8.8	2.0	5.7	10.7	12.4	6.5	6.1
96	3.9	4.0	2.9	5.1	3.3	4.9	1.8	4.9	31.6	12.1	5.3	5.5
97	4.7	2.7	5.3	3.2	7.2	7.2	1.8	4.3	10.8	9.0	6.3	5.6
98	n/a	2.7	n/a	n/a	n/a	4.5	1.9	4.9	n/a	8.5	n/a	3.0
99	7.3	n/a	6.1	n/a	8.4	6.5	n/a	2.9	n/a	n/a	4.9	n/a
100	5.0	3.9	6.4	5.0	6.0	7.1	1.8	5.3	9.1	9.4	5.0	6.8
101	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
102	4.7	5.4	5.7	5.7	7.4	7.1	2.1	5.8	5.7	8.4	6.2	7.1
103	3.5	4.4	5.4	4.9	5.6	6.2	2.8	5.2	10.5	8.5	6.3	7.0
104	n/a	n/a	n/a	n/a	n/a	7.3	n/a	3.9	14.1	9.6	7.5	7.9
105	n/a	1.7	3.0	3.1	3.8	7.6	1.6	3.6	8.0	7.1	2.7	5.3
106	n/a	5.7	n/a	n/a	n/a	6.2	2.5	4.6	15.8	9.0	6.7	8.2
107	7.6	7.5	9.7	n/a	11.4	16.5	n/a	8.3	n/a	6.1	9.9	10.3
108	9.1	8.0	7.4	8.3	8.8	10.0	2.2	8.8	11.7	11.5	8.2	9.2
109	n/a	n/a	7.4	6.8	17.6	7.6	n/a	n/a	n/a	9.0	6.0	11.1
110	4.8	n/a	5.3	4.0	3.9	5.8	n/a	2.5	7.4	9.1	5.9	7.6
111	n/a	8.3	1.6	8.8	9.1	9.9	n/a	12.9	n/a	10.0	7.5	11.7
112	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	16.4	12.5	8.4	10.2
113	7.6	n/a	6.5	6.6	7.1	8.3	18.2	6.4	10.8	10.4	9.4	9.9
114	8.2	n/a	7.1	6.5	8.6	11.2	n/a	7.1	10.4	9.5	6.6	10.5
115	n/a	n/a	n/a	8.5	13.0	11.2	n/a	8.7	11.1	11.6	9.6	8.9
116	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	16.3	15.3	12.0	12.7
117	6.4	5.1	10.3	n/a	12.4	14.4	n/a	21.1	32.4	13.9	12.4	12.5
118	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	17.8	16.2	12.2	13.1
119	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
120	n/a	n/a	n/a	14.4	15.9	15.5	n/a	12.0	n/a	19.3	15.5	4.2
121	n/a	n/a	n/a	n/a	10.0	18.3	n/a	20.3	n/a	15.6	13.7	13.2
122	14.8	5.3	6.8	16.7	7.1	16.1	7.1	9.5	19.3	17.4	14.3	13.5
123	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
124	15.5	4.3	5.7	16.3	10.0	14.3	1.3	11.2	23.8	15.6	14.1	11.6
125	7.6	2.8	3.5	n/a	6.4	11.2	1.6	7.5	23.4	15.7	14.2	7.0
126	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	20.5	n/a	11.0	1.8
127	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
128	n/a	4.2	3.5	19.5	4.2	5.4	1.2	2.0	16.3	14.9	10.5	9.7
129	7.4	1.3	9.0	16.3	4.9	8.1	1.0	5.5	29.1	16.3	11.9	11.1
130	5.3	2.7	4.9	17.9	7.7	12.1	3.6	6.8	24.3	16.6	10.6	8.6
131	n/a	4.3	1.9	n/a	4.3	7.6	0.8	11.8	25.5	14.2	7.4	9.1
132	8.5	4.6	7.6	8.2	13.8	11.0	4.0	7.8	11.4	12.1	9.1	9.0
133	1.2	2.4	2.2	11.8	2.3	7.7	1.4	6.1	19.8	18.2	5.9	8.4
134	8.0	2.7	7.1	13.5	4.2	9.6	1.0	7.2	26.4	14.9	9.7	10.1
135	1.0	2.8	3.6	14.9	3.9	10.4	n/a	9.8	22.2	10.8	9.1	9.4
136	3.7	2.3	4.7	12.6	4.9	10.2	1.5	7.0	25.3	17.7	9.2	9.3
137	4.6	2.6	6.2	13.2	3.3	7.0	2.0	6.3	19.5	12.4	9.6	7.0
138	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
139	4.5	2.7	4.2	15.7	2.9	6.7	1.7	9.5	22.7	10.5	4.6	5.1
140	n/a	1.7	3.0	n/a	2.9	5.9	0.8	3.8	n/a	14.0	n/a	4.9
141	5.9	3.1	5.8	11.6	5.6	8.1	3.9	5.0	25.9	12.4	7.7	6.2
142	3.6	4.3	4.1	10.6	4.5	6.3	1.5	4.6	23.5	10.2	7.7	7.6
143	6.3	3.4	8.7	14.4	6.9	9.0	4.7	6.3	17.4	12.3	8.9	7.5
144	2.7	3.6	4.4	16.1	4.9	5.6	10.0	5.3	20.4	10.9	4.6	6.8
145	n/a	3.4	n/a	n/a	5.1	5.0	n/a	4.2	n/a	14.5	n/a	6.0
146	6.1	6.3	9.7	16.0	9.7	10.8	n/a	6.7	n/a	n/a	n/a	n/a
147	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
148	5.2	4.0	6.3	15.6	8.0	7.2	3.2	7.8	25.0	13.3	6.1	7.1
149	5.4	2.9	4.0	13.1	4.8	6.7	1.5	6.1	21.7	11.3	6.3	6.0
150	7.2	4.4	2.6	n/a	2.3	7.3	0.5	2.8	21.8	10.9	5.9	7.6
151	5.4	3.1	5.6	8.1	4.4	5.4	1.6	5.4	20.0	12.2	4.5	6.4
152	3.4	3.0	5.7	13.0	8.4	7.1	1.2	6.0	19.3	9.4	4.6	4.6
153	3.2	2.8	3.2	8.9	3.8	6.1	1.1	6.2	19.0	8.7	5.2	6.5
154	5.6	2.2	4.4	12.9	4.9	6.4	1.1	6.3	18.8	11.4	5.7	6.5
155	3.9	2.2	3.9	12.6	4.1	6.6	0.9	5.3	15.9	8.7	4.5	5.9
156	n/a	0.9	3.6	n/a	2.7	6.5	1.0	7.4	15.2	8.3	5.4	6.1
157	4.3	3.1	4.1	4.7	3.5	7.2	0.8	5.9	14.0	10.7	5.4	5.6
158	n/a	2.0	n/a	n/a	n/a	5.2	0.7	3.7	n/a	12.1	n/a	5.0
159	2.8	n/a	3.5	n/a	3.6	4.8	0.7	3.9	18.3	9.7	4.2	3.3
160	6.3	2.5	3.8	15.8	6.9	5.5	1.1	5.6	16.2	10.9	6.0	5.4
161	n/a	4.1	7.3	n/a	2.9	2.7	1.3	7.0	19.6	n/a	n/a	0.9
162	3.9	4.5	7.6	12.4	10.2	8.9	2.8	8.5	17.2	13.3	8.2	7.4

Table 3
Trip Lengths (in miles) by TAZ for Residential and Lodging Projects

	RESIDENT								OVERNIGHT VISITOR			
TAZ	Eat	Escort	Maintenance	School	Shop	Work	AtWorkOther (Work-based other)	Discretionary	Gaming	Recreation	Shopping	Other
163	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
164	3.4	3.0	2.8	12.8	11.7	6.3	0.7	5.9	8.9	8.5	5.7	4.7
165	n/a	n/a	3.9	n/a	3.6	6.8	2.1	7.9	15.1	8.7	7.2	4.4
166	4.9	3.5	4.1	11.2	5.1	6.1	1.3	5.4	16.0	10.3	6.6	5.7
167	4.6	3.3	5.3	12.3	8.0	7.1	1.8	5.3	16.6	10.4	6.1	6.1
168	2.9	1.9	4.2	6.8	6.6	7.1	3.6	5.3	15.8	8.9	4.2	5.2
169	5.3	4.1	6.1	1.7	4.5	7.9	2.4	3.8	12.9	12.8	8.9	n/a
170	3.1	2.6	2.5	16.7	5.4	6.7	3.9	5.7	17.1	6.3	4.4	9.3
171	5.1	2.1	3.6	3.8	7.8	6.5	1.0	6.8	15.0	9.0	5.1	6.6
172	3.7	3.0	4.5	6.1	4.2	5.6	1.1	3.5	n/a	11.3	6.1	5.1
173	5.3	2.9	4.5	5.9	4.6	6.7	1.7	6.2	18.9	10.5	6.7	4.5
174	5.7	6.0	6.0	11.4	8.3	7.8	3.2	6.8	15.2	8.9	6.2	8.1
175	9.9	4.2	2.2	5.2	10.0	10.9	n/a	7.8	10.4	7.4	4.9	9.1
176	5.4	9.2	4.3	20.5	9.0	8.1	2.3	6.5	13.5	11.4	5.7	7.0
177	5.0	5.7	3.5	8.2	5.8	6.8	2.6	5.4	13.3	9.2	6.8	7.3
178	5.3	4.8	4.7	8.6	8.9	9.1	7.0	7.1	12.9	9.4	5.1	6.7
179	4.9	3.5	6.0	10.6	10.5	7.8	2.5	5.7	15.1	10.2	6.4	7.4
180	3.8	4.7	4.7	9.7	7.2	8.9	1.2	6.5	n/a	7.3	6.1	6.7
181	4.5	7.2	3.7	9.2	9.3	6.2	1.4	5.9	10.7	7.7	5.7	5.6
182	3.7	4.4	4.4	8.6	7.7	6.8	3.3	6.1	12.9	6.6	4.7	4.7
183	3.5	9.6	4.5	8.6	9.2	7.7	1.5	5.9	11.8	5.7	5.2	6.0
184	2.8	6.9	4.5	15.7	9.4	6.8	7.5	7.2	13.6	5.9	3.5	3.1
185	4.9	n/a	3.9	6.0	5.1	5.6	0.9	10.2	7.9	7.3	11.5	6.9
186	4.7	11.6	8.4	8.7	11.9	9.9	n/a	7.9	12.6	8.1	7.2	5.1
187	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
188	5.2	8.8	4.9	10.9	9.4	9.5	3.4	6.3	13.5	7.3	4.7	4.5
189	3.9	3.8	5.4	4.8	9.3	5.9	1.2	5.7	8.3	9.6	4.6	6.6
190	4.4	7.2	4.7	4.5	9.1	7.1	1.5	5.6	9.3	8.4	5.1	5.2
191	5.2	7.4	7.5	10.1	12.9	10.0	1.2	7.0	10.3	7.7	4.7	6.1
192	4.9	7.9	4.6	8.8	11.4	7.9	1.2	7.3	7.9	8.0	5.6	6.4
193	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
194	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
195	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
196	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
197	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
198	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
199	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
200	3.6	n/a	3.2	3.5	3.7	4.3	0.9	3.9	7.7	6.5	3.6	3.3
201	n/a	2.2	1.7	n/a	n/a	4.0	0.8	3.7	n/a	5.5	n/a	6.8
202	3.4	4.5	3.1	4.1	3.6	4.5	1.0	4.2	8.3	6.5	3.7	3.2
203	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
204	2.3	n/a	3.4	2.6	3.7	5.4	1.1	5.5	12.1	4.7	3.4	5.1
205	3.9	2.1	3.3	n/a	6.7	5.0	1.2	4.3	7.4	4.9	4.1	3.3
206	4.0	2.8	3.0	4.3	6.7	4.4	1.1	4.0	8.4	8.2	3.9	5.2
207	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
208	n/a	2.5	5.8	8.5	5.1	10.1	n/a	8.4	n/a	20.4	5.4	2.4
209	4.7	3.1	7.1	7.4	8.1	6.7	3.4	6.7	4.8	8.2	6.2	3.1
210	5.3	4.6	6.6	7.9	7.7	7.5	3.1	6.6	n/a	n/a	n/a	4.5
211	3.5	3.6	5.5	6.3	6.9	6.1	2.4	5.9	3.3	8.6	4.7	3.4
212	3.5	3.2	5.3	4.9	6.2	4.5	1.0	4.3	4.8	6.0	4.9	5.2
213	4.7	3.2	4.4	5.0	5.7	5.2	1.3	4.6	5.2	7.1	4.2	5.7
214	n/a	n/a	n/a	6.3	5.7	3.5	n/a	25.6	n/a	n/a	n/a	n/a
215	6.2	3.5	3.2	6.8	6.3	5.2	2.4	6.0	9.3	5.6	4.3	3.3
216	5.7	5.0	8.0	7.1	8.9	8.0	7.2	6.8	3.2	8.8	8.0	3.5
217	3.3	2.9	4.1	4.7	6.5	5.5	1.3	5.0	14.8	7.4	3.9	4.9
218	7.0	4.8	3.3	n/a	7.9	5.8	2.1	3.4	15.2	7.4	6.2	5.3
219	5.5	3.3	5.0	5.8	10.0	7.1	2.1	6.3	12.4	9.2	5.2	6.3
220	4.7	3.9	4.7	6.3	10.3	7.5	0.9	6.9	5.8	10.1	13.2	5.8
221	3.4	3.3	3.6	4.9	7.3	5.0	1.3	4.8	4.1	4.6	3.6	3.9
222	3.1	4.0	3.4	6.0	6.8	6.0	1.1	5.2	4.4	5.7	5.0	5.4
223	4.7	3.3	5.2	5.7	8.6	6.1	0.9	6.1	5.9	7.7	7.1	5.6
224	4.1	3.4	4.5	6.2	9.1	7.1	1.4	6.0	13.6	7.0	8.2	6.0
225	5.2	4.0	5.6	5.7	10.9	8.5	2.3	7.5	6.0	8.7	6.2	6.3
226	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	7.5	8.3	5.3	7.3
227	4.6	3.1	4.9	4.4	12.6	8.8	1.8	7.2	15.4	7.9	7.1	4.1
228	n/a	n/a	n/a	n/a	n/a	3.0	n/a	n/a	n/a	9.0	n/a	n/a
229	6.1	3.4	7.4	8.9	14.6	9.7	1.4	8.1	10.4	11.3	7.2	8.2
230	6.9	5.4	6.0	9.9	14.2	9.8	4.1	7.9	6.5	8.0	9.4	9.2
231	9.4	2.8	9.8	12.6	14.7	10.1	1.0	9.7	8.5	11.1	8.1	7.5
232	n/a	n/a	8.7	16.7	10.8	10.1	16.7	14.4	14.5	13.2	5.8	10.4
233	10.4	n/a	16.3	n/a	8.8	4.8	n/a	11.0	n/a	14.1	12.5	n/a
234	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
235	17.9	3.2	8.4	15.6	12.7	8.8	n/a	9.0	n/a	11.8	11.9	5.2
236	n/a	8.2	6.7	n/a	n/a	11.0	0.9	14.9	n/a	n/a	6.8	n/a
237	n/a	15.2	5.4	14.6	14.2	12.7	1.1	11.7	10.2	10.9	8.3	8.0
238	n/a	n/a	1.9	n/a	n/a	15.2	n/a	n/a	n/a	13.5	11.4	n/a
239	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 3
Trip Lengths (in miles) by TAZ for Residential and Lodging Projects

	RESIDENT									OVERNIGHT VISITOR			
TAZ	Eat	Escort	Maintenance	School	Shop	Work	AtWorkOther (Work-based other)	Discretionary		Gaming	Recreation	Shopping	Other
240	11.0	5.2	9.3	12.4	14.9	12.9	1.2	11.3		12.2	12.1	10.1	7.6
241	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	7.9
242	n/a	1.1	10.8	10.6	15.4	16.1	15.9	13.2		7.1	11.4	8.4	11.5
243	11.6	n/a	n/a	n/a	n/a	13.0	n/a	n/a		n/a	n/a	n/a	4.9
244	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	16.9	3.4	n/a
245	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		11.7	15.8	11.5	11.4
246	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
247	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
248	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
249	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		15.2	12.4	18.2	14.1
250	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		13.8	14.9	13.2	14.4
251	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
252	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
253	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
254	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
255	5.0	n/a	7.1	n/a	8.4	9.5	n/a	4.5		11.2	14.8	10.7	10.6
256	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
257	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
258	n/a	n/a	n/a	n/a	15.7	4.9	1.9	2.4		9.1	11.2	7.9	11.3
259	4.8	n/a	n/a	n/a	5.2	22.4	n/a	14.6		12.5	n/a	25.1	7.9
260	6.1	9.7	3.3	8.1	8.7	7.8	1.3	6.5		6.7	4.6	2.2	6.5
261	5.5	9.8	3.0	5.7	11.1	5.8	1.4	5.5		8.6	11.5	5.2	5.6
262	2.4	8.6	2.9	3.2	10.8	5.3	1.6	3.8		8.0	13.8	4.5	4.2
263	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		9.9	8.7	5.4	6.8
264	2.2	14.1	3.6	4.6	7.4	4.2	0.9	4.6		11.3	9.2	4.4	4.8
265	2.6	2.3	2.2	1.9	5.8	4.0	0.8	5.1		7.3	9.7	6.2	4.7
266	4.0	3.7	3.0	n/a	9.7	5.7	2.3	6.9		6.3	11.1	7.0	5.3
267	4.2	11.9	4.3	5.3	12.3	6.9	1.3	5.9		9.4	10.9	6.1	6.1
268	n/a	n/a	3.7	n/a	10.1	6.5	1.6	7.4		n/a	13.7	4.9	6.3
269	4.0	12.5	4.9	8.7	13.0	8.9	0.7	7.3		10.3	10.5	6.6	6.3
270	4.9	12.8	4.2	6.6	12.6	7.5	1.5	5.5		5.9	9.0	6.2	5.5
271	2.3	6.4	7.0	7.1	12.2	5.5	1.3	3.0		13.6	14.4	17.3	3.2
272	2.8	8.8	3.0	4.0	7.8	4.3	1.2	5.2		7.4	11.8	5.0	3.8
273	5.0	16.4	3.0	5.3	11.4	6.2	2.0	4.7		6.7	10.0	6.5	5.8
274	4.5	12.1	4.4	5.6	10.9	7.0	1.9	5.0		7.1	9.2	6.0	5.9
275	2.3	6.2	3.7	5.7	10.1	6.5	1.4	4.2		11.4	11.7	5.9	7.1
276	3.8	10.0	3.0	4.3	9.8	6.2	1.5	4.8		8.9	8.6	6.9	5.6
277	4.0	7.1	2.9	8.7	9.8	4.5	1.2	5.4		7.9	9.0	5.9	6.8
278	5.0	10.3	3.4	5.3	8.4	4.8	1.0	4.7		9.4	10.9	5.6	5.6
279	3.7	7.5	2.4	6.8	7.9	4.1	1.2	4.4		8.5	10.6	4.7	5.8
280	7.7	2.8	2.3	3.4	4.2	3.1	0.8	5.3		7.7	8.1	4.5	6.0
281	2.2	9.7	2.9	6.2	10.8	6.8	0.9	4.9		10.0	6.4	12.5	4.0
282	3.1	8.8	3.3	5.1	10.2	5.4	1.5	4.6		6.3	6.8	4.3	5.5
283	3.9	12.1	4.2	4.2	10.4	6.7	1.7	5.5		8.6	12.7	6.8	8.4
284	2.4	2.4	2.2	2.8	6.5	5.0	0.9	4.1		10.5	14.1	5.1	4.1
285	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a
286	5.5	16.0	4.7	5.0	12.1	7.8	2.1	6.6		5.7	10.4	5.7	6.7
287	5.1	16.2	4.8	6.5	11.9	7.8	3.3	6.9		5.1	8.1	5.0	6.7
288	n/a	3.8	1.7	8.2	7.7	4.3	n/a	5.8		5.8	10.3	5.1	3.7
289	4.8	2.2	7.1	3.9	8.7	6.5	6.0	5.7		8.5	13.4	7.8	5.5
290	n/a	1.2	2.4	n/a	1.9	4.7	1.0	7.7		7.8	12.1	4.8	4.6
291	5.0	14.6	4.7	6.3	11.4	7.1	1.7	5.9		9.2	8.3	4.6	7.2
292	9.2	21.4	2.7	n/a	11.4	n/a	2.6	7.0		n/a	n/a	n/a	n/a
293	5.3	12.3	4.3	7.7	11.4	8.0	1.0	6.7		7.8	7.8	4.4	7.2
294	4.5	5.3	5.0	7.6	10.8	8.5	2.3	6.8		8.3	8.1	5.0	6.3
295	7.3	7.2	4.0	n/a	14.6	5.5	0.8	5.1		9.4	7.9	5.2	5.6
296	4.9	5.9	6.7	4.3	10.8	5.9	0.8	6.1		10.1	9.2	5.5	5.5
297	n/a	10.0	1.6	13.0	16.1	7.1	n/a	5.0		10.6	7.9	13.5	2.5

Table 4
Trip Lengths (in miles) by TAZ for Commercial, Office, Recreation and Public Service Projects

TAZ	Gaming (Day Visitor, Overnight Visitor)	Recreation (Day Visitor, Overnight Visitor)	Shop and Shopping (Day Visitor, Overnight Visitor, Resident)	Eat	Maintenance (Convenience)	School	All Work Trips (Work, AtWorkOther, External Work)	Work and External Work	AtWorkOther	Discretionary (Resident)
9	9.4	7.5	4.3	3.2	2.9	3.4	3.5	4.9	0.9	3.4
10	6.6	7.2	3.8	3.9	3.2	6.8	3.8	4.7	1.0	3.6
11	6.8	7.2	3.7	3.2	3.2	3.2	4.1	4.7	1.1	3.2
12	11.8	8.8	4.1	3.2	3.5	2.8	3.9	4.1	1.3	3.2
13	7.8	5.7	4.4	3.0	3.1	3.0	4.0	4.6	0.9	3.3
14	17.4	7.7	4.7	3.5	3.6	2.8	4.2	4.4	1.5	3.6
15	14.7	9.1	3.9	3.2	3.6	3.5	4.9	5.3	1.5	3.8
16	n/a	n/a	4.2	7.2	n/a	n/a	3.3	4.1	1.6	4.5
17	10.4	9.2	5.7	3.9	3.7	4.6	4.9	5.5	1.7	3.6
18	8.9	7.5	3.9	3.3	3.3	2.5	3.9	4.2	1.2	3.2
19	8.5	7.1	3.6	2.6	3.3	2.0	3.9	4.4	1.2	3.3
20	10.1	6.8	4.3	2.5	2.9	2.7	5.0	5.4	1.1	3.1
21	4.5	8.7	4.1	3.4	3.4	2.3	4.1	4.2	0.9	3.2
22	21.3	2.5	2.5	n/a	1.6	1.4	3.0	3.2	2.6	4.2
23	6.8	7.9	4.3	3.8	3.9	2.7	4.3	4.4	2.2	3.5
24	9.1	7.3	4.4	3.0	3.3	2.6	3.9	4.2	1.5	3.2
25	n/a	6.8	3.8	5.1	3.5	2.9	4.2	4.5	1.3	3.7
26	9.2	6.5	4.5	3.5	3.7	2.7	4.0	4.1	1.7	3.6
27	12.3	6.8	4.9	2.5	3.4	2.8	4.6	5.3	0.9	3.3
28	9.9	7.2	4.6	2.7	2.8	3.1	3.6	4.3	0.8	2.9
29	11.3	6.9	5.8	3.5	2.8	n/a	4.9	5.6	1.0	n/a
30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
31	12.3	7.4	5.0	3.4	3.2	4.1	6.5	6.6	0.9	3.7
32	9.4	9.3	4.3	3.6	4.0	3.9	9.7	10.2	1.7	3.8
33	8.2	7.6	4.4	3.8	3.9	3.3	4.9	5.0	2.7	3.6
34	2.8	7.1	4.5	3.6	3.9	2.7	4.2	4.2	2.8	3.9
35	n/a	10.0	4.4	3.5	3.3	3.2	4.7	4.8	1.9	4.0
36	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
37	7.7	7.4	3.8	3.4	3.8	2.5	4.3	4.4	1.7	3.5
38	6.1	9.7	4.1	3.9	2.9	2.4	4.0	4.3	1.2	3.4
39	7.3	8.1	4.2	2.9	3.3	2.4	4.1	4.4	1.2	3.2
40	10.5	8.0	4.6	3.2	3.2	2.6	4.4	4.8	1.8	3.2
41	10.6	9.7	4.5	3.0	3.6	2.7	3.9	4.0	2.0	3.3
42	9.1	7.5	3.9	3.0	3.4	2.3	4.3	4.6	1.4	3.2
43	8.7	7.5	4.3	4.0	3.4	2.4	4.2	4.5	1.4	3.3
44	10.6	9.4	4.8	3.4	3.8	3.7	5.9	6.2	1.2	4.3
45	9.2	10.0	4.3	4.4	4.6	3.5	5.8	5.9	2.2	4.3
46	8.1	8.1	4.4	2.8	3.0	2.7	5.5	5.8	2.0	3.6
47	13.1	6.5	4.1	3.0	3.0	2.6	4.9	5.1	1.1	3.1
48	8.3	8.0	4.0	3.5	3.6	2.7	4.6	5.1	1.5	3.7
49	11.3	7.8	4.3	3.2	2.9	2.9	4.4	4.9	1.2	3.0
50	10.9	7.7	5.7	3.3	2.7	3.4	4.5	5.2	0.9	3.2
51	7.5	5.8	3.8	2.7	4.3	2.9	4.8	5.1	1.2	4.2
52	8.5	9.8	3.8	3.0	2.7	3.2	4.8	5.0	1.5	3.6
53	5.0	9.8	4.4	4.3	3.2	3.1	4.2	4.3	2.2	3.8
54	9.3	9.1	4.0	3.6	3.1	3.5	5.0	5.1	2.2	3.7
55	n/a	n/a	n/a	3.6	n/a	4.1	5.1	5.1	n/a	n/a
56	12.1	8.6	4.0	3.3	3.2	3.2	4.7	5.3	0.8	3.4
57	11.1	7.2	4.3	3.2	2.8	3.2	3.4	4.4	0.9	3.1
58	11.0	7.9	4.8	3.9	3.4	3.2	4.5	5.0	1.2	3.5
59	8.4	9.0	4.2	3.4	3.4	2.9	4.9	5.3	1.2	3.5
60	9.8	7.3	4.2	3.7	3.3	3.3	4.5	4.9	1.6	3.7
61	11.4	8.2	5.0	3.7	2.7	2.5	3.9	4.6	0.9	3.3
62	11.9	7.4	3.4	3.2	3.1	2.9	3.9	4.4	1.0	3.2
63	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
64	n/a	n/a	4.4	n/a	4.5	n/a	10.3	10.0	11.1	5.5
65	8.5	7.9	4.8	3.3	4.1	3.2	6.4	6.4	3.4	4.5
66	4.9	6.7	4.4	4.3	3.7	2.7	5.6	5.6	3.5	4.0
67	6.0	10.0	4.2	3.6	4.3	2.7	4.6	4.6	2.6	3.5
68	4.5	7.0	5.2	3.3	4.2	2.7	4.9	4.9	n/a	4.3
69	n/a	7.1	4.4	4.2	3.6	4.2	7.5	7.5	n/a	4.5
70	6.7	10.3	4.9	4.3	5.2	3.4	5.9	5.9	6.4	4.5
71	12.3	10.7	5.7	3.1	5.6	3.2	5.5	5.5	4.7	4.5
72	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
73	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
74	15.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
75	8.9	12.4	6.0	5.2	5.8	5.4	7.0	7.2	2.2	5.0
76	6.9	12.2	5.4	4.5	4.3	5.0	5.8	5.9	1.8	4.5
77	n/a	14.9	5.6	4.8	5.1	3.9	6.7	6.9	0.7	4.1
78	7.1	6.7	5.2	4.5	7.0	4.4	6.7	6.8	2.8	5.1
79	7.2	8.7	6.0	4.6	5.6	4.9	6.8	6.9	3.8	4.8
80	11.7	8.1	3.6	n/a	2.3	n/a	3.2	3.6	0.9	3.5
81	13.2	8.7	4.6	3.8	3.7	4.0	4.9	5.4	2.1	4.5
82	n/a	15.5	4.4	5.1	4.0	5.0	5.3	6.6	1.8	5.1
83	n/a	15.5	5.8	5.7	6.9	5.6	7.1	7.1	n/a	5.7
84	7.1	9.9	3.8	n/a	5.0	n/a	7.8	8.3	2.0	4.0
85	10.9	13.9	4.8	7.2	4.5	5.8	5.7	6.4	1.0	4.6
86	10.1	8.2	5.5	5.1	5.3	6.7	6.8	7.6	1.1	4.4
87	n/a	8.6	5.4	10.2	4.5	8.0	8.3	8.3	n/a	5.8
88	32.6	8.6	5.6	6.8	5.1	6.9	8.9	9.4	2.9	5.6
89	11.8	13.3	7.9	14.9	8.0	11.2	10.3	10.7	6.4	5.5
90	n/a	13.8	7.3	8.3	8.9	7.0	9.0	9.0	n/a	6.3
91	10.6	9.9	5.4	4.4	5.9	6.4	8.8	8.9	5.0	5.1
92	12.5	11.2	6.7	6.2	6.8	8.1	9.6	9.9	3.6	6.1
93	9.4	11.2	6.3	n/a	0.5	n/a	6.1	6.1	n/a	n/a
94	n/a	10.2	4.9	8.0	6.0	7.4	8.7	8.7	n/a	5.1
95	10.6	12.7	6.0	5.0	5.7	6.4	8.1	8.2	2.2	5.5
96	10.8	11.3	5.4	3.9	3.1	5.8	5.7	6.3	1.8	3.9
97	10.5	8.2	5.1	4.7	5.2	4.0	6.6	6.8	1.9	4.3
98	8.1	9.1	n/a	n/a	n/a	n/a	5.9	6.9	1.9	4.9

Table 4
Trip Lengths (in miles) by TAZ for Commercial, Office, Recreation and Public Service Projects

TAZ	Gaming (Day Visitor, Overnight Visitor)	Recreation (Day Visitor, Overnight Visitor)	Shop and Shopping (Day Visitor, Overnight Visitor, Resident)	Eat	Maintenance (Convenience)	School	All Work Trips (Work, AtWorkOther, External Work)	Work and External Work	AtWorkOther	Discretionary (Resident)
99	n/a	n/a	4.4	7.3	6.1	n/a	6.5	6.5	n/a	2.9
100	8.9	9.9	5.4	5.0	5.8	5.1	6.4	6.5	2.1	5.1
101	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
102	6.8	8.4	5.8	4.7	5.7	5.7	6.7	7.1	2.1	5.7
103	14.7	10.5	6.3	3.5	5.4	4.9	7.3	7.9	3.1	5.4
104	15.3	10.4	7.5	n/a	n/a	n/a	12.3	12.3	n/a	3.9
105	11.3	7.8	3.0	n/a	3.0	3.1	9.5	12.3	1.6	3.6
106	13.6	10.6	6.7	n/a	n/a	n/a	5.5	6.2	2.5	5.1
107	n/a	6.1	10.2	7.6	9.7	n/a	15.3	15.3	n/a	8.3
108	13.9	12.7	9.0	9.1	7.9	8.3	16.4	17.0	2.2	8.4
109	20.9	9.0	7.0	n/a	7.4	6.8	11.5	11.5	n/a	n/a
110	13.4	8.9	4.8	4.8	5.3	4.0	5.8	5.8	n/a	2.5
111	n/a	10.0	8.3	n/a	n/a	8.8	11.0	11.0	n/a	11.7
112	17.9	13.8	8.9	n/a	n/a	n/a	n/a	n/a	n/a	n/a
113	11.7	12.1	7.8	7.6	6.5	6.6	14.3	14.3	13.2	6.4
114	10.4	9.5	7.2	8.2	6.9	6.5	9.7	9.7	n/a	7.1
115	12.8	11.9	9.7	n/a	n/a	8.5	12.9	12.9	n/a	8.7
116	19.5	15.8	12.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
117	22.9	15.8	12.4	6.4	10.3	n/a	16.1	16.1	n/a	15.6
118	19.8	16.3	12.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
119	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
120	n/a	19.3	13.3	n/a	n/a	14.4	15.5	15.5	n/a	12.0
121	n/a	15.6	11.0	n/a	n/a	n/a	18.3	18.3	n/a	14.8
122	19.3	17.4	11.2	14.8	7.0	16.2	15.5	16.0	6.5	10.1
123	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
124	23.8	15.9	11.7	15.5	6.1	16.3	15.1	15.9	1.3	11.4
125	21.0	15.9	12.7	7.6	3.7	n/a	19.6	20.4	1.6	7.1
126	22.2	n/a	11.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
127	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
128	19.0	14.8	10.6	n/a	3.5	19.5	16.1	19.1	1.2	3.2
129	29.1	17.0	8.5	7.4	7.9	16.3	9.1	9.6	1.0	6.1
130	23.9	16.6	8.7	5.3	5.1	16.8	10.7	11.2	3.4	7.3
131	25.5	14.2	5.8	n/a	2.0	n/a	7.4	9.3	0.8	11.2
132	11.4	8.9	8.1	8.5	7.7	8.2	10.3	10.4	4.0	7.1
133	19.8	17.9	6.4	1.2	2.3	11.8	10.5	11.9	1.6	8.3
134	26.4	15.2	6.4	8.0	6.7	13.1	9.8	10.0	1.0	8.0
135	21.2	14.2	6.5	1.0	3.6	14.9	17.8	17.8	n/a	8.2
136	25.3	18.2	6.2	3.7	4.7	12.6	9.7	10.0	1.5	7.4
137	18.5	12.4	4.6	4.6	5.3	13.2	13.3	13.6	2.0	5.4
138	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
139	21.5	11.0	4.9	4.5	4.0	13.2	7.5	8.3	2.0	8.5
140	n/a	13.6	2.9	n/a	3.0	n/a	6.1	8.6	0.9	5.5
141	24.3	12.2	6.4	5.9	5.2	9.6	8.3	9.0	3.5	4.7
142	23.5	10.2	5.7	3.6	4.1	9.1	5.2	5.4	1.5	5.0
143	16.2	11.6	7.1	6.3	7.8	11.9	9.6	9.7	4.7	5.3
144	20.4	10.9	4.9	2.7	4.3	12.6	5.3	5.4	4.5	4.5
145	n/a	12.3	6.2	n/a	n/a	n/a	15.2	15.2	n/a	4.2
146	n/a	n/a	8.9	6.1	9.0	13.7	10.5	10.5	n/a	6.7
147	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
148	23.8	13.3	6.9	5.2	5.7	12.4	6.1	6.3	3.2	6.5
149	18.9	10.9	5.9	5.4	4.0	10.4	7.4	8.0	1.8	5.3
150	16.9	10.4	5.7	7.2	3.5	n/a	6.7	17.9	0.5	2.8
151	18.3	11.9	4.4	5.4	4.6	5.9	4.4	4.7	1.6	4.3
152	19.1	9.3	5.7	3.4	5.8	8.9	5.9	6.7	1.3	4.3
153	13.7	8.6	5.3	3.2	3.4	7.5	5.7	6.9	1.1	4.8
154	17.9	10.2	5.1	5.6	4.1	8.8	6.4	7.2	1.1	4.8
155	12.2	7.8	4.5	3.9	4.2	10.5	7.0	8.3	0.9	4.3
156	12.2	7.5	4.8	n/a	3.6	n/a	5.5	7.8	1.0	4.6
157	11.4	9.2	5.0	4.3	4.2	4.9	7.0	8.2	0.8	4.4
158	n/a	8.0	n/a	n/a	n/a	n/a	8.8	9.6	0.7	4.3
159	14.2	8.8	4.9	2.8	3.6	n/a	7.6	11.2	0.7	3.9
160	13.2	8.3	5.7	6.3	4.1	14.0	5.5	6.9	1.1	5.1
161	19.6	n/a	3.9	n/a	3.6	n/a	2.5	2.7	1.3	4.3
162	13.5	10.0	6.3	3.9	7.6	12.4	9.0	9.8	3.0	4.5
163	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
164	9.4	8.7	6.5	3.4	2.8	9.9	6.5	6.7	0.7	4.4
165	12.1	8.1	6.1	n/a	3.9	n/a	5.6	7.9	1.3	4.5
166	13.5	9.6	6.2	4.9	4.0	8.2	6.0	6.8	1.3	4.5
167	16.7	10.4	6.5	4.6	4.6	9.4	6.1	6.2	1.8	4.8
168	15.8	10.6	5.3	2.9	3.9	5.9	6.6	6.9	3.6	4.6
169	12.9	12.8	5.1	5.3	6.1	1.7	5.4	6.3	2.4	4.8
170	18.4	6.3	5.2	3.1	3.1	10.4	6.8	7.9	2.0	4.7
171	12.9	8.9	6.2	5.1	3.7	4.0	6.0	6.7	1.1	5.3
172	11.1	9.3	6.2	3.7	4.3	6.1	12.4	13.6	1.2	3.4
173	18.3	10.8	5.1	5.3	4.4	5.9	6.3	6.7	1.8	5.0
174	14.7	9.0	6.6	5.7	5.6	8.6	7.4	7.5	3.4	5.8
175	10.4	7.4	6.9	9.9	2.2	5.2	8.2	8.2	n/a	6.3
176	11.8	11.1	6.5	5.4	4.5	12.2	9.2	10.0	2.3	5.2
177	10.9	9.5	6.5	5.0	3.9	8.2	7.0	7.5	1.9	4.4
178	12.9	10.4	6.1	5.3	4.3	6.9	7.6	7.7	4.5	5.5
179	15.1	10.6	7.2	4.9	5.3	7.8	6.9	7.0	2.5	4.5
180	n/a	7.0	5.8	3.8	4.4	6.8	6.8	7.1	1.2	4.4
181	9.5	7.9	6.1	4.5	3.5	6.4	5.7	6.3	1.5	3.9
182	11.2	7.5	5.1	3.7	3.5	7.5	5.4	5.8	2.1	3.9
183	11.8	6.0	5.6	3.5	3.3	6.1	5.1	5.8	1.0	3.7
184	13.6	5.9	4.8	2.8	4.0	9.4	4.8	4.7	7.5	3.2
185	9.0	7.9	9.6	4.9	4.0	6.0	5.7	7.0	0.9	5.9
186	12.6	8.0	6.8	4.7	4.9	6.7	7.0	7.0	n/a	4.8
187	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
188	12.4	8.1	5.0	5.2	3.7	7.8	6.4	6.5	2.3	4.2

Table 4
Trip Lengths (in miles) by TAZ for Commercial, Office, Recreation and Public Service Projects

TAZ	Gaming (Day Visitor, Overnight Visitor)	Recreation (Day Visitor, Overnight Visitor)	Shop and Shopping (Day Visitor, Overnight Visitor, Resident)	Eat	Maintenance (Convenience)	School	All Work Trips (Work, AtWorkOther, External Work)	Work and External Work	AtWorkOther	Discretionary (Resident)
189	8.2	10.4	5.8	3.9	4.1	4.2	5.0	5.5	1.2	4.2
190	8.5	9.2	6.0	4.4	4.2	4.5	6.2	6.6	1.6	4.2
191	9.8	7.7	6.8	5.2	5.6	6.2	7.4	7.7	1.2	4.6
192	8.8	8.1	6.9	4.9	4.2	6.0	5.9	6.5	1.2	4.9
193	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
194	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
195	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
196	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
197	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
198	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
199	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
200	13.9	6.8	3.6	3.6	3.2	3.5	4.5	5.1	1.0	3.7
201	n/a	10.0	n/a	n/a	1.7	n/a	4.0	4.6	0.8	3.5
202	14.0	6.9	3.7	3.4	3.1	4.1	4.8	5.4	1.0	4.0
203	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
204	10.1	6.0	4.7	2.3	3.1	2.6	4.9	5.9	1.1	4.0
205	9.6	6.7	4.4	3.9	3.4	n/a	4.7	5.7	1.2	3.8
206	13.0	8.2	4.9	4.0	3.0	4.3	3.7	4.2	1.1	3.6
207	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
208	n/a	20.4	5.7	n/a	5.2	8.5	5.8	5.8	n/a	5.8
209	4.8	10.4	6.8	4.7	5.7	7.4	5.5	5.8	1.9	5.8
210	n/a	n/a	6.4	5.3	5.6	7.7	6.0	6.0	3.1	5.6
211	3.3	8.7	5.6	3.5	5.0	6.1	4.8	4.9	2.6	4.5
212	10.6	8.6	5.7	3.5	4.9	4.8	4.0	4.8	1.1	3.6
213	11.2	8.3	5.0	4.7	4.4	4.8	4.7	5.1	1.5	3.8
214	n/a	n/a	5.7	n/a	n/a	6.3	3.5	3.5	n/a	15.6
215	9.6	5.6	5.2	6.2	3.2	6.8	4.8	4.9	2.7	4.6
216	6.0	8.8	7.0	5.7	6.8	7.1	6.6	6.7	5.3	5.2
217	11.4	8.3	5.1	3.3	4.0	4.7	4.3	4.8	1.4	4.2
218	13.5	8.1	6.3	7.0	3.3	n/a	6.2	7.1	2.1	3.4
219	11.4	9.2	7.0	5.5	4.4	5.8	6.0	6.2	2.3	5.6
220	5.8	11.2	8.4	4.7	4.8	6.2	6.2	6.9	0.9	6.1
221	9.7	5.7	5.7	3.4	3.5	4.9	4.4	4.7	1.3	4.2
222	12.9	7.4	6.3	3.1	3.5	6.0	5.3	6.0	1.1	4.8
223	11.7	9.7	6.5	4.7	4.6	5.7	5.0	5.6	0.9	5.1
224	13.2	9.1	7.2	4.1	4.8	6.1	6.3	7.0	1.6	5.4
225	7.7	8.9	6.9	5.2	5.0	5.6	6.7	7.2	2.3	6.3
226	11.7	8.5	5.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
227	14.4	10.7	7.4	4.6	5.0	4.3	7.7	8.2	1.8	5.7
228	n/a	11.5	n/a	n/a	n/a	n/a	6.2	6.2	n/a	n/a
229	10.3	11.6	7.9	6.1	6.6	6.5	7.6	7.9	1.4	6.9
230	6.5	9.0	7.9	6.9	5.1	6.9	8.5	8.8	4.1	6.3
231	11.3	11.1	7.7	9.4	7.9	7.8	7.5	8.1	1.0	7.9
232	17.3	14.2	7.5	n/a	7.0	6.7	8.6	8.9	6.7	10.1
233	n/a	14.1	8.1	10.4	16.3	n/a	4.8	4.8	n/a	8.2
234	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
235	n/a	11.8	7.6	17.9	8.4	5.6	8.1	8.1	n/a	5.3
236	n/a	20.1	6.8	n/a	6.7	n/a	8.6	10.2	1.0	4.9
237	10.2	10.6	6.9	n/a	3.8	4.6	8.5	9.3	1.1	6.7
238	7.1	11.5	11.4	n/a	2.2	n/a	5.9	5.9	n/a	n/a
239	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
240	12.2	12.1	7.5	11.0	6.0	6.6	8.8	8.9	1.2	6.9
241	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
242	7.6	11.4	7.1	n/a	7.0	7.9	11.2	11.4	5.9	9.5
243	n/a	n/a	n/a	11.6	n/a	n/a	3.0	3.0	n/a	n/a
244	12.5	16.7	3.4	n/a	n/a	n/a	n/a	n/a	n/a	n/a
245	13.8	12.9	10.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
246	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
247	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
248	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
249	14.8	13.6	18.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
250	15.4	15.6	13.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
251	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
252	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
253	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
254	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
255	11.9	14.2	11.5	5.0	7.1	n/a	9.7	9.7	n/a	4.5
256	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
257	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
258	9.8	10.9	8.9	n/a	n/a	n/a	3.9	4.9	1.9	2.4
259	12.5	n/a	15.1	4.8	n/a	n/a	13.8	13.8	n/a	8.3
260	6.7	4.6	4.6	6.1	2.7	5.2	5.4	5.8	1.3	5.0
261	9.1	11.9	6.8	5.5	2.8	3.9	5.0	5.4	1.3	4.3
262	9.3	14.5	5.6	2.4	2.5	2.5	4.9	5.6	1.4	3.5
263	9.8	9.7	8.2	n/a	n/a	n/a	n/a	n/a	n/a	n/a
264	15.1	10.6	5.2	2.2	3.2	3.8	4.6	5.3	0.9	3.7
265	8.0	10.3	5.7	2.6	2.3	1.8	3.9	4.7	0.8	3.8
266	10.9	9.6	6.8	4.0	2.9	n/a	5.1	5.7	1.9	5.3
267	10.2	12.4	6.3	4.2	3.8	3.5	5.2	5.6	1.4	4.6
268	6.6	15.7	5.7	n/a	3.7	n/a	9.0	9.7	1.6	4.8
269	10.3	10.6	6.2	4.0	4.0	4.1	6.3	6.3	0.7	5.3
270	7.0	9.2	6.3	4.9	3.4	3.2	5.1	5.2	1.5	4.3
271	13.6	15.3	7.6	2.3	6.1	3.9	5.8	6.1	1.3	2.5
272	9.0	13.5	6.0	2.8	3.0	3.3	4.3	4.9	1.3	3.8
273	8.2	10.4	5.9	5.0	2.6	2.7	4.3	4.6	1.6	3.5
274	8.6	11.4	5.4	4.5	3.5	5.4	5.2	5.3	2.1	3.6
275	9.2	11.0	5.9	2.3	2.8	3.7	4.0	4.1	1.4	3.8
276	8.8	8.9	6.2	3.8	2.7	3.0	4.9	5.1	1.5	3.8
277	7.1	9.7	6.4	4.0	2.9	4.8	4.0	4.5	1.1	3.8
278	9.3	11.0	5.1	5.0	2.9	3.0	4.2	4.8	1.0	3.7

Table 4
Trip Lengths (in miles) by TAZ for Commercial, Office, Recreation and Public Service Projects

TAZ	Gaming (Day Visitor, Overnight Visitor)	Recreation (Day Visitor, Overnight Visitor)	Shop and Shopping (Day Visitor, Overnight Visitor, Resident)	Eat	Maintenance (Convenience)	School	All Work Trips (Work, AtWorkOther, External Work)	Work and External Work	AtWorkOther	Discretionary (Resident)
279	8.6	11.3	4.7	3.7	2.5	3.9	4.4	5.3	1.1	3.5
280	8.8	8.9	6.1	7.7	2.3	3.4	3.7	4.5	0.8	4.0
281	9.6	8.5	8.0	2.2	2.4	3.3	4.9	5.6	1.0	4.3
282	7.7	6.7	5.7	3.1	2.9	3.1	4.1	4.5	1.6	3.7
283	8.6	12.7	5.5	3.9	3.4	2.6	4.8	5.1	1.7	4.1
284	8.3	14.9	7.2	2.4	2.3	3.0	5.6	6.1	0.9	3.0
285	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
286	9.5	10.5	5.2	5.5	4.0	3.2	5.3	5.4	2.2	4.6
287	6.3	8.8	5.5	5.1	3.7	3.6	5.6	5.7	2.3	5.1
288	7.2	9.9	4.8	n/a	1.7	4.5	3.2	3.2	n/a	3.7
289	8.6	13.7	5.6	4.8	4.6	3.1	6.1	6.2	3.6	4.1
290	8.4	12.9	5.9	n/a	2.3	n/a	8.4	9.1	1.0	5.3
291	8.6	8.5	5.9	5.0	3.9	4.0	5.6	5.8	1.9	4.5
292	n/a	n/a	6.1	9.2	2.7	n/a	2.6	n/a	2.6	4.6
293	8.4	7.9	6.4	5.3	3.3	5.9	6.5	6.8	1.0	4.5
294	8.3	8.1	5.9	4.5	4.2	4.8	6.0	6.2	2.3	5.2
295	8.9	8.6	6.0	7.3	4.1	n/a	5.3	6.1	0.9	3.5
296	11.5	9.3	6.3	4.9	4.7	3.7	4.8	5.6	0.9	4.4
297	10.6	7.9	10.7	n/a	1.6	6.7	5.0	5.0	n/a	4.0

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DRAFT MEMORANDUM

Date: September 3, 2020 Project #: 24786

To: Michelle Glickert, Reid Haefer, Rebecca Cremeen, and Melanie Sloan
Tahoe Regional Planning Agency

From: Kittelson & Associates, Inc.
Project: TRPA 2045 RTP Environmental Technical Support
Subject: Traffic Operations Analysis: Existing and Future Conditions Analysis

This memorandum describes the analysis performed by Kittelson & Associates, Inc. (Kittelson) to evaluate existing and future (2045) traffic operations for the transportation network in the Lake Tahoe Region, in support of the Tahoe Region Planning Agency's (TRPA) 2045 Regional Transportation Plan (RTP). Kittelson evaluated the level of service for intersections and roadway segments throughout the study area consistent with the Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM), 6th Edition.

SUMMARY

- All seven study intersections would operate at an acceptable level of service (LOS) during the PM peak hour under existing and future conditions and satisfy TRPA's LOS D standard.
- Under existing conditions, 11 of the 24 roadway segments operate at an unacceptable LOS per TRPA standards.
- Under future conditions, nine of the 25 roadway segments (including the additional segment representing the realignment of US 50) would operate at an unacceptable AADT LOS per TRPA standards.

STUDY LOCATIONS

This memorandum updates the traffic operations analysis of the seven intersections and 24 roadway segments identified previously as study locations in the 2012 and 2017 TRPA RTP/SCS analysis. The operations analysis has been updated to be consistent with current national practices and analysis methodologies. Table 1 and Table 2 list the study intersections and roadways, respectively. Figure 1 displays the locations of these intersections and roadway segments.

Table 1: Study Intersections

#	Intersection	Control	Jurisdiction	City/Community
1	SR 28 / SR 267	Signalized	Caltrans	Kings Beach
2	SR 28 / Village Boulevard	Signalized	NDOT	Incline Village
3	US 50 / SR 89 (North Y)	Signalized	Caltrans	South Lake Tahoe
4	US 50 / Ski Run Boulevard	Signalized	Caltrans	South Lake Tahoe
5	US 50 / Park Avenue	Signalized	Caltrans	South Lake Tahoe
6	SR 50 / SR 207 (Kingsbury Grade Road)	Signalized	NDOT	Kingsbury
7	SR 28 / SR 89	Signalized	Caltrans	Tahoe City

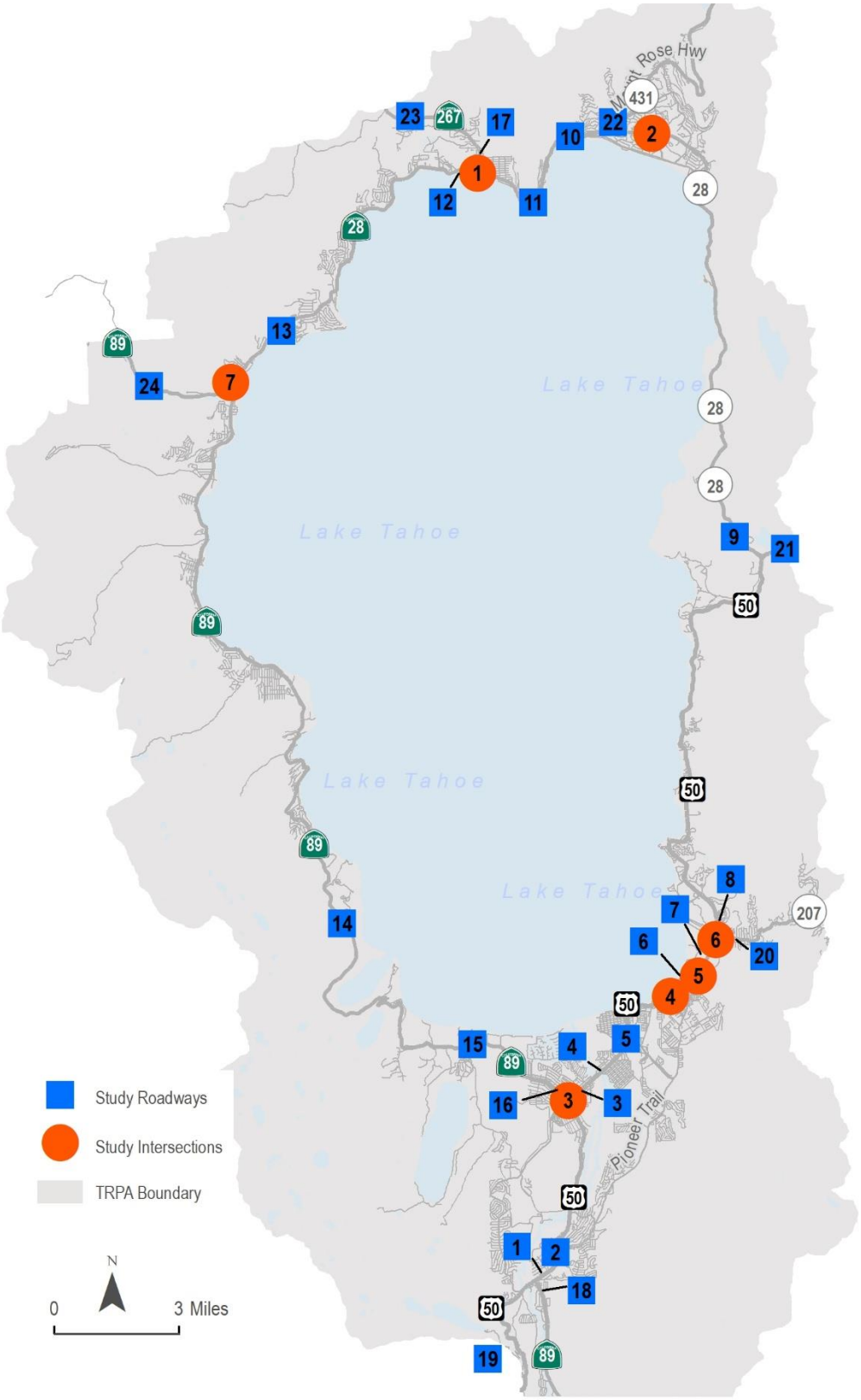
Source: Kittelson & Associates, Inc., 2020.

Table 2: Study Roadway Segments

#	On Road	From Road	To Road	Jurisdiction
1	US 50	SR 89 (Luther Pass Road)	Navahoe Drive	Caltrans
2	US 50	Pioneer Trail Road	Arapahoe Street	Caltrans
3	US 50	SR 89	Dunlap Drive	Caltrans
4	US 50	Tahoe Keys Boulevard	Winnemucca Avenue	Caltrans
5	US 50	Edgewood Circle	Al Tahoe Boulevard	Caltrans
6	US 50	Pioneer Trail	Park Avenue / Heavenly Village Way	Caltrans
7	US 50	Lake Parkway	SR 207 (Kingsbury Grade Road)	NDOT
8	US 50	SR 207 (Kingsbury Grade Road)	Kahle Drive	NDOT
9	SR 28	Spooner Lake Trail	US 50	NDOT
10	SR 28	Red Cedar Drive	Lakeshore Boulevard	NDOT
11	SR 28	Cal Neva Drive	Stateline Road	Caltrans
12	SR 28	Brassie Avenue	SR 267 (N. Shore Boulevard)	Caltrans
13	SR 28	Lake Boulevard	Lake Forest Road	Caltrans
14	SR 89	South of Lester Beach Road	-	Caltrans
15	SR 89	Fallen Leaf Road / Heritage Way	Valhalla Road	Caltrans
16	SR 89	Tucker Avenue	US 50 (Lake Tahoe Boulevard)	Caltrans
17	SR 267	North Avenue	Tiger Avenue	Caltrans
18	SR 89	US 50	Pomo Street	Caltrans
19	US 50	East of Johnson Pass Rd	-	Caltrans
20	SR 207	US 50	Kahle Drive	NDOT
21	US 50	SR 28	Kings Canyon Road	NDOT
22	SR 431	SR 28	2nd Creek Drive	NDOT
23	SR 267	Tahoe Rim Trail	Gas Line Road	Caltrans
24	SR 89	Twin Crags	SR 28	Caltrans

Source: Kittelson & Associates, Inc., 2020.

Figure 1: Study Intersections and Roadways



Source: Kittelson & Associates, Inc., 2020.

METHODOLOGY

In order to ascertain the existing and future traffic conditions in the region, traffic operations were evaluated at seven key study intersections and 24 roadway segments. These intersections and roadway segments remain consistent with those identified in the 2017 RTP/SCS document. This section presents the methods used to determine the level of service (LOS) for the study intersections and roadways in the planning area. It includes descriptions of the data requirements, analysis methodologies, and the applicable LOS standards.

Level of Service - Definition

Level of service describes the operating conditions experienced by motorists. LOS is a qualitative measure of the effect of a number of factors, including speed and travel time, traffic interruptions, freedom to maneuver, driving comfort and convenience. Levels of service are designated "A" through "F" from best to worst, which cover the entire range of traffic operations that might occur. LOS "A" through "E" generally represent traffic volumes at less than capacity, while LOS "F" represents locations over capacity and/or experiencing significant delays.

Intersection Evaluation Methodology

Signalized intersection operations were evaluated using the *Highway Capacity Manual* (HCM) 6th Edition methodology and Synchro software. Due to limitations in how Synchro has implemented the HCM 6th Edition, two intersections that include shared and exclusive lanes needed to be evaluated using the HCM 2000 methodology. For signalized intersections, the HCM procedure calculates a weighted average stop delay in seconds per vehicle and assigns a LOS designation based on this average delay. Table 3 provides definitions and descriptions for each LOS grade for signalized intersections.

Table 3: Level of Service Definitions for Signalized Intersections

Average Delay Per Vehicle (Seconds)	LOS	Description of Traffic Conditions
≤10.0	A	Free flowing. Most vehicles do not have to stop.
>10.0 and ≤20.0	B	Minimal delays. Some vehicles have to stop, although waits are not bothersome.
>20.0 and ≤35.0	C	Acceptable delays. Significant numbers of vehicles have to stop because of steady, high traffic volumes. Still, many pass without stopping.
>35.0 and ≤55.0	D	Tolerable delays. Many vehicles have to stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach.
>55.0 and ≤80.0	E	Significant delays. Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches.
>80.0	F	Excessive delays. Intersection is jammed. Many cars have to wait through more than one red light, or more than 60 seconds. Traffic may back up into “up-stream” intersections.

Source: Transportation Research Board, *Highway Capacity Manual*, 6th Edition, Washington, D.C., 2016.

Roadway Segment Evaluation Methodology

Roadway segments were evaluated using the generalized service volume tables from the HCM 6th Edition and the Transportation Research Board National Cooperative Highway Research Program (NCHRP) Report 825 to determine planning-level LOS estimates for the 24 study roadways.

The HCM provides generalized daily service volumes for several facility types, including urban streets, two-lane highways, multi-lane highways, and basic freeway segments. Volume thresholds for each facility type are provided for different combinations of roadway characteristics, including number of lanes, posted speed limit, highway class (class I; class II), terrain (level; rolling), roadway context (urban; rural), and K- (peaking) and D- (directional) factors.

This analysis evaluates roadways representing three facility types: urban street facilities, two-lane highways, and multi-lane highways.

- **Urban Street Facilities** – roadways typically functionally classified as an urban arterial or collector street with signalized intersections, stop-controlled intersections, or roundabouts that are placed no more than 2 miles apart.

- **Two-Lane Highways** – highways with one lane for the use of traffic in each direction, where traffic signals are spaced 2 or more miles apart and passing movements may be allowed to take place in the opposing lane of traffic.

  Class I two-lane highways *are highways where motorists expect to travel at relatively high speeds. Two-lane highways that are major intercity routes, primary connectors of major traffic generators, daily commuter routes, or major links in state or national highway networks are generally assigned to Class I. These facilities serve mostly long-distance trips or provide the connections between facilities that serve long-distance trips.*

  Class II two-lane highways *are highways where motorists do not necessarily expect to travel at high speeds. Two-lane highways that are access routes to Class I facilities, that serve as scenic or recreational routes (and not as primary arterials), or that pass through rugged terrain (where high-speed operation would be impossible) are assigned to Class II. These facilities most often serve relatively short trips, the beginning or ending portions of longer trips, or trips for which sightseeing plays a significant role.*[1]

- **Multi-Lane Highways** – highways with at least two lanes for the use of traffic in each direction, where traffic signals are spaced 2 or more miles apart.

Table 4 provides the maximum daily volumes for each LOS range by facility type.

[1] NCHRP Report 825 - *Planning and Preliminary Engineering Application Guide to the Highway Capacity Manual* (2016)

Table 4: HCM Generalized Daily Services Volumes

Level of Service	Urban Street Facilities				Two-Lane Highways			Multi-Lane Highways
	Two-Lane Streets		Four-Lane Streets		Class I – Level Terrain	Class II – Rolling Terrain	Class II – Rolling Terrain	Rural Rolling Terrain Four-Lane
	30 mph	45 mph	30 mph	45 mph				
A	-	-	-	-	-	-	-	-
B	-	-	-	-	4,400	3,300	3,700	27,900
C	1,600	7,000	2,000	14,900	7,900	7,100	7,900	40,000
D	10,700	14,300	22,300	30,200	13,400	12,600	14,400	49,800
E	16,100	16,500	32,200	33,100	27,100	26,300	27,100	56,800

Source: Transportation Research Board, Highway Capacity Manual, Washington, D.C., 2016.
"Urban Street Facilities" thresholds from Exhibit 16-16; "Two-Lane Highways" thresholds from Exhibit 15-46; "Multi-Lane Highways" thresholds from Exhibit 12-42
Note: Values represent maximum volumes with assumed K-factor of 0.1 and assumed D-factor of 0.55.

EXISTING TRAFFIC CONDITIONS

Data Collection and Assumptions

Due to atypical travel patterns currently observed as a result of the COVID-19 pandemic, new traffic counts were not collected for this analysis. Existing 2018 counts/volumes were used as available. Where 2018 counts/volumes were not available, 2018 volumes for intersections and roadway segments were estimated based on the known 2018 traffic counts and standard methodologies from NCHRP Research Report 765 to adjust traffic volumes from available counts.

Intersection Volume Data

Turning movement counts collected in 2018 were available for two of the seven intersections: SR 28 / SR 267 and SR 28 / SR 89. Traffic counts for the other five intersection were available from prior years (2014, 2016, and 2017). Table 5 lists the year of the most recent available traffic count for each intersection. Existing traffic counts for all intersections and all count years were collected during the Friday PM peak period.

The following describes the method for estimating 2018 turning movement volumes for the five intersections missing 2018 counts:

1. The annual average daily traffic (AADT) for each intersection leg was collected for each intersection for the base year (the year of the available turn movement count) and 2018.[2]
2. A linear growth factor for each leg was calculated from the base year to 2018.[3] Minor side street volumes without recent land use changes were assumed to remain constant if no counts were available.
3. Growth factors were applied to the total approach and departure volumes from the base year turn movement counts to determine 2018 approach and departure volumes.
4. Existing counts and calculated approach volumes were used to compute 2018 turning volumes using the Furness method[4] to factor the base year turn movement counts to match the adjusted 2018 segment volumes.

Table 5: Intersection Traffic Count Year

#	Intersection	Year of Existing Traffic Count
1	SR 28 / SR 267	2018
2	SR 28 / Village Boulevard	2014
3	US 50 / SR 89 (North Y)	2016
4	US 50 / Ski Run Boulevard	2014
5	US 50 / Park Avenue	2014
6	SR 50 / SR 207 (Kingsbury Grade Road)	2017
7	SR 28 / SR 89	2018

Source: Kittelson & Associates, Inc., 2020.

Roadway Volume Data

Existing (2018 base year) volumes were compiled for each roadway segment. Values for the following were collected or calculated to analyze operations for the study roadways:

1. 2018 AADT
2. 2018 Peak Hour Volume (bi-directional)
3. 2018 5th Highest Hour Volume (bi-directional)

[2] Caltrans data was collected from Caltrans Traffic Census Program. NDOT data was collected from *Traffic Records Information Access (TRINA)* and NDOT's Annual Traffic Reports.

[3] If approach AADT was not available, the smallest approach growth rate for the intersection was used.

[4] As referenced in *NCHRP Report 765 – Analytical Travel Forecasting Approaches for Project-Level Planning and Design* (2014)

2018 AADT values were available for every roadway segment, but several hourly volumes were calculated based on the following assumptions/methods:

- Missing peak hour volumes were determined using the following two methods:
  - 2018 "design hour factor" applied to 2018 AADT
  - 2015 or 2017 "k-factor" applied to 2018 AADT

Missing 5th highest hour volumes were determined by applying the highest observed ratio of 5th highest hour volume to peak hour volume (0.85). Table 6 presents the three volume measures for each study roadway and highlights the method used to calculate missing 2018 values.

Table 6: 2018 Roadway Volumes

#	On Road	Segment Limits	2018 AADT	2018 Peak Hour Volume	2018 5th Highest Hour Volume
1	US 50	SR 89 to Navahoe Dr	14,700	2,350	1,998
2	US 50	Pioneer Trl to Arapahoe St	15,800	2,800	2,380
3	US 50	SR 89 to Dunlap Dr	35,000	4,150	3,528
4	US 50	Tahoe Keys Blvd to Winnemucca Ave	35,000	4,150	3,528
5	US 50	Edgewood Cir to Al Tahoe Blvd	28,500	2,800	2,380
6	US 50	Pioneer Trl to Park Ave	28,900	3,100	2,635
7	US 50	Lake Pkwy to SR 207	27,900	2,957	2,514
8	US 50	SR 207 to Kahle Dr	28,400	2,790	2,371
9	SR 28	Spooner Lake Trl to US 50	4,775	721	434
10	SR 28	Red Cedar Dr to Lakeshore Blvd	13,400	1,621	1,378
11	SR 28	Cal Neva Dr to Stateline Rd	13,300	1,600	1,360
12	SR 28	Brassie Ave to SR 267	13,600	1,400	1,190
13	SR 28	Lake Blvd to Lake Forest Rd	13,100	1,300	1,105
14	SR 89	South of Lester Beach Road	3,000	570	485
15	SR 89	Fallen Leaf Rd to Valhalla Rd	5,000	770	655
16	SR 89	Tucker Ave to US 50	16,700	2,200	1,870
17	SR 267	North Ave to Tiger Ave	10,500	1,250	1,063
18	SR 89	US 50 to Pomo St	4,900	500	425
19	US 50	East of Johnson Pass Rd	11,100	1,900	1,615
20	SR 207	US 50 to Kahle Dr	12,100	1,224	1,041
21	US 50	SR 28 to Kings Canyon Rd	15,700	1,792	1,523
22	SR 431	SR 28 to 2nd Creek Dr	4,300	443	377
23	SR 267	Tahoe Rim Trl to Gas Line Rd	10,600	1,400	1,190
24	SR 89	Twin Crags to SR 28	11,200	1,350	1,148

Notes: Values with a green background were calculated by applying 2018 design hour factor from NDOT ATR to 2018 AADT.
Values with a blue background were calculated by applying 2015/2017 k-factor from NDOT ATR to 2018 AADT.
Values with a gray background were calculated by applying ratio of 0.85 to 2018 peak hour volume.

Existing Operations

TRPA's 2019 *Threshold Standards and Regional Plan* provides LOS thresholds for the region's highways and signalized intersections:

> *Level of service (LOS) criteria for the Region's highway system and signalized intersections during peak periods shall be: "C" on rural recreational/scenic roads; "D" on rural developed area roads; "D" on urban developed area roads; "D" for signalized intersections. Level of Service "E" may be acceptable during peak periods in urban areas, but not to exceed four hours per day. These vehicle LOS standards may be exceeded when provisions for multi-modal amenities and/or services (such as transit, bicycling, and walking facilities) are adequate to provide mobility for users at a level that is proportional to the project-generated traffic in relation to overall traffic conditions on affected roadways.*

Intersection Operations

The Synchro model from the 2017 RTP/SCS was applied to calculate existing conditions LOS at the study intersections. For all intersections, the inputs were updated as available for traffic volumes, pedestrian and bicycle volumes, signal timing, approach configuration, and other criteria. For Intersections #2-6, where 2018 traffic counts were unavailable, the estimated 2018 turn movements were used but peak hour factor (PHF), percent heavy vehicles, and pedestrian and bicycle counts were kept consistent with the 2015 data used for the 2017 RTP/SCS. Right-turn assumptions were also updated at intersections 3 and 6 based on a review of the ability to make free right turn movements.

Table 7 displays the average delay per vehicle in seconds and the LOS for the PM peak hour at each study intersection for the existing conditions scenario.

Table 7: Intersection Level of Service and Average Delay for the PM Peak Period - Existing Conditions

#	Intersection	Control	Delay	TRPA Peak Period LOS Standard	LOS
1	SR 28 / SR 267	Signalized	17.8	D	B
2	SR 28 / Village Boulevard	Signalized	31.6	D	C
3	US 50 / SR 89 (North Y)	Signalized	34.5	D	C
4	US 50 / Ski Run Boulevard	Signalized	26.6[1]	D	C
5	US 50 / Park Avenue	Signalized	49.0	D	D
6	US 50 / SR 207	Signalized	12.8	D	B
7	SR 28 / SR 89	Signalized	24.5[1]	D	C

Source: Kittelson & Associates, Inc., 2020.
[1] HCM 2000 methodology

Roadway Operations

Roadway operations were analyzed by comparing the 2018 volume data to the service volumes in Table 4. For hourly LOS analysis, these daily service volumes were converted to hourly volumes by applying a K-factor (peaking factor) of 0.1, consistent with the HCM assumptions. For all roadways, service volume thresholds assumed a D-factor (directional split factor) of 0.55, consistent with the 2017 RTP/SCS. The HCM service volume tables for urban facilities include values for roadways with two posted speed limits (30 or 45). For this evaluation, an urban facility with any other posted speed limit uses the service volumes for the speed closest to the actual posted speed limit (i.e. a facility with a speed limit of 35 uses the service volumes for 30 mph; a 40 mph facility uses the service volumes for 45 mph).

Table 8 provides the LOS for three volume scenarios: AADT, peak hour, and 5th highest hour. Peak hour LOS can be directly compared to TRPA standards. The 5th highest hour LOS is included as TRPA standards allow for LOS E during peak periods in urban areas, not to exceed four hours per day.

The HCM facility type and TRPA LOS standard for each roadway was determined to identify appropriate service volume thresholds and LOS standards.

Table 8: Roadway Level of Service – Existing Conditions

#	Road	Segment Limits	HCM Facility Type	TRPA Peak Period LOS Standard	2018 AADT LOS	2018 Peak Hour LOS	2018 5th Highest Hour LOS
1	US 50	SR 89 to Navahoe Dr	TLH[1]	D[6]	**E**	**E**	**E**
2	US 50	Pioneer Trl to Arapahoe St	TLH[1]	D[6]	**E**	**F**	**E**
3	US 50	SR 89 to Dunlap Dr	FL-U[2]	D[6]	**F**	**F**	**F**
4	US 50	Tahoe Keys Blvd to Winnemucca Ave	FL-U[2]	D[6]	**F**	**F**	**F**
5	US 50	Edgewood Cir to Al Tahoe Blvd	FL-U[2]	D[6]	D	D	D
6	US 50	Pioneer Trl to Park Ave	FL-U[3]	D[6]	**E**	**E**	**E**
7	US 50	Lake Pkwy to SR 207	FL-U[3]	D[6]	**E**	**E**	**E**
8	US 50	SR 207 to Kahle Dr	FL-U[3]	D[6]	**E**	**E**	**E**
9	SR 28	Spooner Lake Trl to US 50	TLH[1]	C	C	**D**	C
10	SR 28	Red Cedar Dr to Lakeshore Blvd	TLH[4]	D[6]	D	**E**	D
11	SR 28	Cal Neva Dr to Stateline Rd	TL-U[3]	D[6]	**E**	**E**	**E**
12	SR 28	Brassie Ave to SR 267	FL-U[3]	D[6]	D	D	D
13	SR 28	Lake Blvd to Lake Forest Rd	TLH[4]	D[6]	D	D	D
14	SR 89	South of Lester Beach Road	TLH[1]	C	B	C	C
15	SR 89	Fallen Leaf Rd to Valhalla Rd	TLH[1]	D[6]	C	D	C
16	SR 89	Tucker Ave to US 50	FL-U[3]	D[6]	D	D	D
17	SR 267	North Ave to Tiger Ave	TLH[4]	D[6]	D	D	D
18	SR 89	US 50 to Pomo St	TLH[1]	D[6]	C	C	C
19	US 50	East of Johnson Pass Rd	TLH[1]	C	**D**	**E**	**E**
20	SR 207	US 50 to Kahle Dr	TL-U[3]	D[6]	**E**	**E**	D
21	US 50	SR 28 to Kings Canyon Rd	FLH[5]	C	B	B	B
22	SR 431	SR 28 to 2nd Creek Dr	TLH[1]	D[6]	C	C	C
23	SR 267	Tahoe Rim Trl to Gas Line Rd	TLH[1]	C	**D**	**E**	**D**
24	SR 89	Twin Crags to SR 28	TLH[1]	D[6]	D	**E**	D

Source: Kittelson & Associates, Inc., 2020.
Note: HCM 6th Edition Service Volume Tables used for planning-level thresholds.
Values with gray background and bold text represent unacceptable LOS.
TLH: Two-Lane Highway
FLH: Four-Lane Highway
TL-U: Two-Lane Urban Facility
FL-U: Four-Lane Urban Facility
[1] Class I highway with rolling terrain
[2] Posted speed limit: 40 mph
[3] Posted speed limit: 35 mph
[4] Class II highway with rolling terrain
[5] Rural highway with rolling terrain
[6] LOS E is acceptable if 5th highest hour is LOS D

Results

All seven study intersections are operating at an acceptable LOS during the PM peak hour under existing conditions and satisfy TRPA's LOS D standard. The results are consistent with the results from the 2017 RTP/SCS for 5 intersections, but differ for the intersections of SR 28 / SR 267 (LOS B compared to LOS D in 2017 report) and US 50 / SR 207 (LOS B compared to LOS C in the 2017 RTP/SCS analysis). This may be a result of the right-turn treatment in the analysis noted above.

Of the 24 roadway segments, 11 are operating at an unacceptable segment LOS for average daily conditions and 14 are operating at an unacceptable segment LOS during the peak hour. Three of the roadway segments operate at LOS E during the peak hour but improve to LOS D by the 5th highest hour, which is allowed for urban areas per TRPA LOS standards:

- #10 – SR 28 between Red Cedar Drive and Lakeshore Boulevard
- #20 – SR 207 between US 50 and Kahle Drive
- #24 – SR 89 between Twin Crags and SR 28

As a result, 11 segments do not meet the TRPA LOS standards in existing conditions:

- #1 – US 50 between SR 89 and Navahoe Drive
- #2 – US 50 between Pioneer Trail and Arapahoe Street
- #3 – US 50 between SR 89 and Dunlap Drive
- #4 – US 50 between Tahoe Keys Boulevard and Winnemucca Avenue
- #6 – US 50 between Pioneer Trail and Park Avenue
- #7 – US 50 between Lake Parkway and SR 207
- #8 – US 50 between SR 207 and Kahle Drive
- #9 – SR 28 between Spooner Lake Trail and US 50
- #11 – SR 28 between Cal Neva Drive and Stateline Road
- #19 – US 50 east of Johnson Pass Road
- #23 – SR 267 between Tahoe Rim Trail and Gas Line Road

FUTURE TRAFFIC CONDITIONS

Traffic Volume Forecasting Approach

The TRPA Tahoe Travel Demand Model was used to forecast traffic volumes for the future conditions in 2045. A detailed description of the forecasting process is provided below.

Future Road Improvements

Changes to the future study sites reflected in the traffic forecasts and operations analysis include:

- SR 267 / SR 28 intersection converted to single-lane roundabout
- SR 89 / SR 28 intersection converted to single-lane roundabout
- Realignment of US 50 in South Lake Tahoe between Pioneer Trail and Park Avenue including a road diet on the old US 50 segment consisting of:
    - one eastbound through lane will be removed; and,
    - the westbound through/right lane is converted to an exclusive right turn lane.

Roadway Volume Forecasts

2045 roadway volumes were estimated for each roadway segment based on the model output. Growth rates were calculated using traffic volumes from the model base year (2018) and future year (2045) and applied to the 2018 AADT, 2018 peak hour, and the 2018 5th highest hour values to estimate the 2045 scenario segment volumes.

Table 9 presents the three volume measures for 2045 for each study roadway.

Table 9: 2045 Roadway Segment Volumes

#	On Road	Segment Limits	2045 AADT	2045 Peak Hour Volume	2045 5th Highest Hour Volume
1	US 50	SR 89 to Navahoe Dr	16,109	2,575	2,189
2	US 50	Pioneer Trl to Arapahoe St	16,564	2,935	2,495
3	US 50	SR 89 to Dunlap Dr	36,451	4,322	3,674
4	US 50	Tahoe Keys Blvd to Winnemucca Ave	35,959	4,264	3,624
5	US 50	Edgewood Cir to Al Tahoe Blvd	29,502	2,898	2,464
6A	US 50[1]	Pioneer Trl to Park Ave	9,060	972	826
6B	US 50[2]	Pioneer Trl to Park Ave	10,998	1,180	1,003
7	US 50	Lake Pkwy to SR 207	27,364	2,901	2,465
8	US 50	SR 207 to Kahle Dr	27,938	2,744	2,333
9	SR 28	Spooner Lake Trl to US 50	4,578	691	416
10	SR 28	Red Cedar Dr to Lakeshore Blvd	13,699	1,658	1,409
11	SR 28	Cal Neva Dr to Stateline Rd	13,393	1,611	1,370
12	SR 28	Brassie Ave to SR 267	13,463	1,386	1,178
13	SR 28	Lake Blvd to Lake Forest Rd	13,042	1,294	1,100
14	SR 89	South of Lester Beach Road	3,235	615	522
15	SR 89	Fallen Leaf Rd to Valhalla Rd	5,104	786	668
16	SR 89	Tucker Ave to US 50	17,025	2,243	1,906
17	SR 267	North Ave to Tiger Ave	10,423	1,241	1,055
18	SR 89	US 50 to Pomo St	5,377	549	466
19	US 50	East of Johnson Pass Rd	12,152	2,080	1,768
20	SR 207	US 50 to Kahle Dr	11,757	1,189	1,011
21	US 50	SR 28 to Kings Canyon Rd	15,123	1,726	1,467
22	SR 431	SR 28 to 2nd Creek Dr	4,342	448	380
23	SR 267	Tahoe Rim Trl to Gas Line Rd	10,575	1,397	1,187
24	SR 89	Twin Crags to SR 28	11,222	1,353	1,150

Source: Kittelson & Associates, Inc., 2020.
[1] Existing US 50 alignment.
[2] Proposed US 50 alignment.

Adjust Future Intersection Volumes

To minimize model calibration error, future model intersection volumes were post-processed to correlate model results with actual traffic counts. Rather than using raw model output, the future segment volumes at each intersection were calculated as the percentage difference between the base year and future year model volumes to factor the base 2018 traffic volumes[5]. The observed turn movement traffic counts were then factored (using the Furness method) to match the adjusted future segment volumes. This method is referenced in the Transportation Research Board National Cooperative Highway Research Program Report (NCHRP) 765*: Analytical Travel Forecasting Approaches for Project-Level Planning and Design* (2014).

Reasonableness Check

The final adjusted model outputs for future traffic projections were reviewed and compared to traffic counts to ensure minor fluctuations and anomalies would not change the overall results of the analysis. For the US 50 / Park Avenue intersection, the intersection is directly impacted by the realignment of US 50 in the future year scenario. For this intersection, the analysis utilizes estimated future volumes developed as part of the US 50/South Shore Community Revitalization project, to maintain consistency with prior analyses and more accurate forecast volumes. Further, for the future analysis of study segment #6 (US 50 between Pioneer Trail and Park Avenue) two sets of volumes were analyzed to take into account the US 50 realignment: one using volumes for the existing US 50 alignment (roadway 6A) and one using volumes for the realigned US 50 (roadway 6B).

Future Operations

Intersection Operations

The Synchro model from the existing conditions analysis was updated to reflect changes to intersection configurations, turning-movement volumes, and traffic control based on 2045 conditions. Signal timings were optimized for the future conditions analysis. Operations of the two single-lane roundabouts were assessed using the Highway Capacity Software (HCS), Version 7.8.

Table 10 displays the average delay per vehicle in seconds and the LOS for the PM peak hour at each study intersection for the future conditions scenario.

[5] 2018 counts for 5 of the 7 study intersections were estimated from older counts. See Table 5 for the intersection count years.

Table 10: Intersection Level of Service and Average Delay for the PM Peak Period – Future Conditions

#	Intersection	Control	Delay	LOS
1	SR 28 / SR 267	Roundabout	15.2	C
2	SR 28 / Village Boulevard	Signalized	31.5	C
3	US 50 / SR 89 (North Y)	Signalized	35.5	D
4	US 50 / Ski Run Boulevard	Signalized	29.4[1]	C
5	US 50 / Park Avenue	Signalized	25.7	C
6	US 50 / SR 207	Signalized	12.4	B
7	SR 28 / SR 89	Roundabout	13.8	B

Source: Kittelson & Associates, Inc., 2020.
[1] HCM 2000 methodology

Roadway Operations

Roadway operations for the future scenario were analyzed by comparing the 2045 volume data to the service volumes in Table 4.

Table 11 provides the LOS for both existing and future traffic volumes using three volume scenarios: AADT, peak hour, and 5th highest hour. Peak hour LOS can be directly compared to TRPA standards. The 5th highest hour LOS is included as TRPA standards allow for LOS E during peak periods in urban areas, not to exceed four hours per day.

Table 11: Roadway Level of Service – Existing and Future Conditions

#	Road	Segment Limits	HCM Facility Type	TRPA Peak Period LOS Standard	2018 AADT LOS	2018 Peak Hour LOS	2018 5th Highest Hour LOS	2045 AADT LOS	2045 Peak Hour LOS	2045 5th Highest Hour LOS
1	US 50	SR 89 to Navahoe Dr	TLH[1]	D[6]	**E**	**E**	**E**	**E**	**E**	**E**
2	US 50	Pioneer Trl to Arapahoe St	TLH[1]	D[6]	**E**	**F**	**E**	**E**	**F**	**E**
3	US 50	SR 89 to Dunlap Dr	FL-U[2]	D[6]	**F**	**F**	**F**	**F**	**F**	**F**
4	US 50	Tahoe Keys Blvd to Winnemucca Ave	FL-U[2]	D[6]	**F**	**F**	**F**	**F**	**F**	**F**
5	US 50	Edgewood Cir to Al Tahoe Blvd	FL-U[2]	D[6]	D	D	D	D	D	D
6A	US 50[7]	Pioneer Trl to Park Ave	FL-U[3]	D[6]	**E**	**E**	**E**	D	D	D
6B	US 50[8]	Pioneer Trl to Park Ave	FL-U[3]	D[6]	--	--	--	D	D	D
7	US 50	Lake Pkwy to SR 207	FL-U[3]	D[6]	**E**	**E**	**E**	**E**	**E**	**E**
8	US 50	SR 207 to Kahle Dr	FL-U[3]	D[6]	**E**	**E**	**E**	**E**	**E**	**E**
9	SR 28	Spooner Lake Trl to US 50	TLH[1]	C	C	**D**	C	C	C	C
10	SR 28	Red Cedar Dr to Lakeshore Blvd	TLH[4]	D[6]	D	**E**	D	D	**E**	D
11	SR 28	Cal Neva Dr to Stateline Rd	TL-U[3]	D[6]	**E**	**E**	**E**	**E**	**F**	**E**
12	SR 28	Brassie Ave to SR 267	FL-U[3]	D[6]	D	D	D	D	D	D
13	SR 28	Lake Blvd to Lake Forest Rd	TLH[4]	D[6]	D	D	D	D	D	D
14	SR 89	South of Lester Beach Road	TLH[1]	C	B	C	C	B	C	C
15	SR 89	Fallen Leaf Rd to Valhalla Rd	TLH[1]	D[6]	C	D	C	C	D	C
16	SR 89	Tucker Ave to US 50	FL-U[3]	D[6]	D	D	D	D	**E**	D
17	SR 267	North Ave to Tiger Ave	TLH[4]	D[6]	D	D	D	D	D	D
18	SR 89	US 50 to Pomo St	TLH[1]	D[6]	C	C	C	C	C	C
19	US 50	East of Johnson Pass Rd	TLH[1]	C	**D**	**E**	**E**	**D**	**E**	**E**
20	SR 207	US 50 to Kahle Dr	TL-U[3]	D[6]	**E**	**E**	D	**E**	**E**	D
21	US 50	SR 28 to Kings Canyon Rd	FLH[5]	C	B	B	B	B	B	B
22	SR 431	SR 28 to 2nd Creek Dr	TLH[1]	D[6]	C	C	C	C	C	C
23	SR 267	Tahoe Rim Trl to Gas Line Rd	TLH[1]	C	**D**	**E**	**D**	**D**	**E**	**D**
24	SR 89	Twin Crags to SR 28	TLH[1]	D[6]	D	**E**	D	D	**E**	D

Source: Kittelson & Associates, Inc., 2020.
Note: HCM 6th Edition Service Volume Tables used for planning-level thresholds.
Values with gray background and bold text represent unacceptable LOS.
TLH: Two-Lane Highway
FLH: Four-Lane Highway
TL-U: Two-Lane Urban Facility
FL-U: Four-Lane Urban Facility
[1] Class I highway with rolling terrain
[2] Posted speed limit: 40 mph
[3] Posted speed limit: 35 mph
[4] Class II highway with rolling terrain
[5] Rural highway with rolling terrain
[6] LOS E is acceptable if 5th hour is LOS D
[7] Existing alignment
[8] Proposed alignment

Results

All seven study intersections would continue to operate at an acceptable LOS during the PM peak hour under 2045 conditions and satisfy TRPA's LOS D standard. Generally, delay would remain consistent with 2018 conditions, with the exception of the intersection of US 50 / Park Avenue – this intersection would see a significant reduction in delay due to the realignment of US 50.

Of the 25 roadway segments, ten would operate at an unacceptable AADT LOS and 13 would operate at an unacceptable LOS during the peak hour under 2045 conditions. Four of the roadway segments operate at LOS E during the peak hour but improve to LOS D by the 5th highest hour, which is allowed for urban areas per TRPA LOS standards:

- #10 – SR 28 between Red Cedar Drive and Lakeshore Boulevard
- #16 – SR 89 between Tucker Avenue and US 50
- #20 – SR 207 between US 50 and Kahle Drive
- #24 – SR 89 between Twin Crags and SR 28

As a result, nine segments do not meet the TRPA LOS standards in existing conditions:

- #1 – US 50 between SR 89 and Navahoe Drive
- #2 – US 50 between Pioneer Trail and Arapahoe Street
- #3 – US 50 between SR 89 and Dunlap Drive
- #4 – US 50 between Tahoe Keys Boulevard and Winnemucca Avenue
- #7 – US 50 between Lake Parkway and SR 207
- #8 – US 50 between SR 207 and Kahle Drive
- #11 – SR 28 between Cal Neva Drive and Stateline Road
- #19 – US 50 east of Johnson Pass Road
- #23 – SR 267 between Tahoe Rim Trail and Gas Line Road

In comparison to existing conditions, the following LOS changes occur in future conditions:

- Both roadway #6A and #6B improve from LOS E to LOS D from existing conditions as a result of changes in traffic volumes and the realignment of US 50 east of Pioneer Trail.
- Roadway #9, SR 28 between Spooner Lake Trail and US 50 improves from LOS D to LOS C in the 2045 PM peak hour as a result of a decrease in traffic volumes.
- Roadway #11, SR 28 between Cal Neva Drive and Stateline Road deteriorates from LOS E to LOS F in the peak hour.
- Roadway #16, SR 89 between Tucker Avenue and US 50 deteriorates from LOS D to LOS E in the 2045 PM peak hour.

As a result, future conditions do not cause any additional locations to exceed the TRPA LOS standards compared to existing conditions.