



CITY OF VACAVILLE

PREPARED FOR:

**City of Vacaville**

605 Merchant Street  
Vacaville, California 95818

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Senior Planner

DRAFT SUPPLEMENTAL

# Environmental Impact Report

## General Plan Transportation Element and Energy Conservation Action Strategy Update

SCH#2020090526

March 2021



PREPARED by:

**DUDEK**

605 Third Street  
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# DRAFT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT

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# Executive Summary

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## ES.1 Proposed Action

The City of Vacaville (City) is the lead agency for preparation of a Supplemental Environmental Impact Report (herein the “Supplemental EIR” or “SEIR”) for a proposed update to the City’s General Plan Transportation Element and Energy and Conservation Action Strategy (ECAS) (proposed project). The City certified the General Plan EIR (SCH # 2011022043) and adopted the General Plan on August 11, 2015. The General Plan Transportation Element defines the City’s long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes and establish standards to be met for transportation operations through the year 2035. The ECAS is a long-range strategy to reduce greenhouse gas (GHG) emissions and achieve greater conservation of resources with regard to transportation and land use, energy, water, solid waste, and open space. The ECAS was developed pursuant to Executive Order S-3-05 (2005) to reduce emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. Current legislation under Senate Bill (SB) 32 requires reducing Statewide GHG emissions to 40% below 1990 levels by 2030.

In 2013, SB 743 was signed into law. SB 743 is intended to promote the state’s goals of encouraging infill development, alternative transportation, and reduced GHG emissions. To promote these goals SB 743 directed the Governor’s Office of Planning and Research (OPR) to consider new methods of evaluating transportation impacts under the California Environmental Quality Act (CEQA) as an alternative to existing measures of congestion and delay (typically expressed as level of service [LOS]). As a result of SB 743, the CEQA Guidelines were revised to identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project’s transportation impacts, effective July 1, 2020. Accordingly, the City is proposing to update the General Plan Transportation Element policies to implement the new VMT impact metric. In addition, as part of this project, the City proposes an update to the ECAS to align with the state’s goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030.

The proposed project includes modifications to the Transportation Element’s goals, policies, and objectives to incorporate VMT as the primary transportation metric for evaluating the environmental effects of a project, while also describing the extent to which other transportation metrics (e.g., level of service) may still be applicable for planning and design. The project also includes an evaluation of VMT throughout the City under buildout conditions. The project does not include amending the City’s adopted Land Use Map.

## ES.2 Summary of Impacts

Table ES-1 presents a summary of the potential environmental impacts that could result from the project, their level of significance, proposed mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.



Table ES-1. Summary of Project Impacts

| Environmental Topic  | Impact | Mitigation Measure(s)   | Level of Significance After Mitigation |
|--|--------|---|--|
| <b>Transportation</b>  |        |   |  |
| <b>TRA-1</b> Implementation of the City's General Plan would generate average VMT per dwelling unit and per thousand square feet of non-residential space that exceeds the applicable significance threshold. This impact is considered significant. | PS     | <p><b>MM-TRA-1</b> The General Plan Transportation Element and/or the Transportation Demand Management chapter of the Vacaville Municipal Code should be amended as follows:</p> <p><b>Implementation Measures</b></p> <p>Proposed development projects that could have a potentially significant VMT impact shall consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT decrease. The below list of potential measures is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures include:</p> <ul style="list-style-type: none"> <li>• improving access to transit;</li> <li>• increasing access to common goods and services, such as groceries, schools, and daycare;</li> <li>• incorporating affordable housing, including low-income housing, into residential and mixed-use development;</li> <li>• orienting the project toward transit, bicycle and pedestrian facilities;</li> <li>• improving pedestrian or bicycle networks, or transit service;</li> <li>• implementing traffic calming;</li> <li>• providing bicycle parking;</li> </ul> | SU                                     |

Table ES-1. Summary of Project Impacts

| Environmental Topic  | Impact | Mitigation Measure(s)  | Level of Significance After Mitigation |
|--|--------|--|--|
|  |        | <ul style="list-style-type: none"> <li>• unbundling parking costs;</li> <li>• implement employer parking cash-out programs;</li> <li>• implementing a commuter reduction program;</li> <li>• providing car-sharing, bike sharing, and ride-sharing programs;</li> <li>• providing transit subsidies or passes;</li> <li>• providing ride-matching services;</li> <li>• providing telework options;</li> <li>• providing incentives or subsidies that increase the use of modes other than single-occupant vehicle;</li> <li>• providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;</li> <li>• providing employee transportation coordinators at employment sites;</li> <li>• providing a guaranteed ride home service to users of non-auto modes;</li> <li>• increasing project density;</li> <li>• increasing the mix of uses within the project or within the project's surroundings;</li> <li>• increasing connectivity and/or intersection density on the project site; and/or</li> </ul> |  |
| <b>TRA-2</b> Implementation of the City's General Plan would result in additional roadway capacity that would lead to induced travel and increased VMT. This impact is considered significant. | PS     | <p><b>MM-TRA-2</b> Roadway projects in Vacaville that would increase VMT should include strategies that offset the increase to the extent feasible.</p> <p><b>Implementation Measures</b></p> <p>Proposed roadway projects that could have a potentially significant VMT impact shall consider reasonable and feasible project modifications and other measures during the project design and environmental review stage to reduce VMT effects in a manner consistent with state guidance on VMT</p>   | LTS                                    |

Table ES-1. Summary of Project Impacts

| Environmental Topic  | Impact | Mitigation Measure(s)   | Level of Significance After Mitigation |
|--|--------|---|--|
|  |        | <p>decrease. The below list of potential measures is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures include:</p> <ol style="list-style-type: none"> <li>1 Amending the City’s street design requirements to incorporate: <ul style="list-style-type: none"> <li>o implementing complete streets, whereby comfortable and convenient bicycle, pedestrian, and transit facilities are provided in conjunction with the roadway improvement</li> </ul> </li> <li>2 Expanding the transit system to include: <ul style="list-style-type: none"> <li>o greater geographic coverage, duration, and frequency of service</li> <li>o Implementing or funding off-site travel demand management (is this transit system?)</li> <li>o Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes</li> </ul> </li> </ol> |  |
| <b>TRA-3</b> The project would not conflict with a program, plan, ordinance or policy addressing transit, bicycle or pedestrian facilities.  | LTS    | N/A   | LTS                                    |
| <b>TRA-4</b> The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). | LTS    | N/A   | LTS                                    |
| <b>TRA-5</b> The project would not result in inadequate emergency access.  | LTS    | N/A   | LTS                                    |



Table ES-1. Summary of Project Impacts

| Environmental Topic  | Impact | Mitigation Measure(s) | Level of Significance After Mitigation |
|--|--------|-----------------------|--|
| <b><i>Greenhouse Gas Emissions</i></b>   |        |                       |  |
| <b>GHG-1.</b> The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.      | LTS    | N/A                   | LTS                                    |
| <b>GHG-2.</b> The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. | LTS    | N/A                   | LTS                                    |

**Notes:** LTS = Less than Significant, N/A = Not Applicable, NI = No Impact, PS = Potentially Significant, SU = Significant and Unavoidable

## ES.3 Analysis of Alternatives

This EIR is a Supplement to the General Plan EIR (SCH # 2011022043), certified by the City of Vacaville on August 11, 2015. A supplement to an EIR need contain only the information necessary to make the previous EIR adequate for the project as revised (CEQA Guidelines Section 15163[b]). The proposed project does not render the alternatives analysis in the General Plan EIR inadequate. The General Plan EIR includes alternatives that would reduce VMT.

## ES.4 Areas of Controversy

The CEQA Guidelines, Section 15123 (b)(2), require the executive summary of an EIR to disclose areas of controversy known to the lead agency that have been raised by the agencies and the public. The County circulated a Notice of Preparation (NOP) to solicit agency and public comments on the scope and environmental analysis to be included in the EIR. No areas of controversy were identified.

## ES.5 Issues to be Resolved by the Lead Agency

The CEQA Guidelines, Section 15123(b)(3), require that an EIR contain a discussion of issues to be resolved. The City must decide whether or not to adopt the proposed updates to the General Plan Land Use Element and the ECAS.

# 1 Introduction and Scope of the SEIR

---

## 1.0 Overview

The City of Vacaville (City) is the lead agency for preparation of a Supplemental Environmental Impact Report (herein the “Supplemental EIR” or “SEIR”) for a proposed update to the City’s General Plan Transportation Element and Energy and Conservation Action Strategy (ECAS) (proposed project). The City certified the General Plan EIR (SCH # 2011022043) and adopted the General Plan on August 11, 2015. The General Plan Transportation Element defines the City’s long-term vision for citywide mobility by setting goals and policies that respond to existing conditions and future changes and establish standards to be met for transportation operations through the year 2035. The ECAS is a long-range strategy to reduce greenhouse gas (GHG) emissions and achieve greater conservation of resources with regard to transportation and land use, energy, water, solid waste, and open space. The ECAS was developed pursuant to Executive Order S-3-05 (2005) to reduce emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. Current legislation under Senate Bill (SB) 32 requires reducing Statewide GHG emissions to 40% below 1990 levels by 2030.

In 2013, SB 743 was signed into law. SB 743 is intended to promote the state’s goals of encouraging infill development, alternative transportation, and reduced GHG emissions. To promote these goals SB 743 directed the Governor’s Office of Planning and Research (OPR) to consider new methods of evaluating transportation impacts under the California Environmental Quality Act (CEQA) as an alternative to existing measures of congestion and delay (typically expressed as level of service [LOS]). As a result of SB 743, the CEQA Guidelines were revised to identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project’s transportation impacts, effective July 1, 2020. Accordingly, the City is proposing to update the General Plan Transportation Element policies to implement the new VMT impact metric. In addition, as part of this project, the City proposes an update to the ECAS to align with the state’s goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030.

The proposed project includes modifications to the Transportation Element’s goals, policies, and objectives to incorporate VMT as the primary transportation metric for evaluating the environmental effects of a project, while also describing the extent to which other transportation metrics (e.g., level of service) may still be applicable for planning and design. The project also includes an evaluation of VMT throughout the City under buildout conditions. The project does not include amending the City’s adopted Land Use Map.

This Draft SEIR identifies and evaluates the impacts of the proposed project on the physical environment and the extent to which the proposed project would alter the conclusions of the City’s General Plan EIR.

## 1.1 Purpose and Intended Use of this SEIR

This Draft SEIR has been prepared to inform the public, local community, responsible agencies, trustee agencies and other interested public agencies, and the City’s decision-making body (City Council) regarding the potential significant environmental effects resulting from adoption and implementation of the proposed changes to the General Plan Transportation Element and ECAS. As the CEQA lead agency for this project, the City is required to consider the information in the EIR and the record as a whole in deciding whether and how to approve amending the General Plan Transportation Element and updating the ECAS.



This Draft SEIR was prepared in compliance with CEQA (California Public Resources Code, § 21000 et seq.), the CEQA Guidelines (14 CCR 15000 et seq.), and the City's procedures for implementing CEQA. As a Supplement to the General Plan EIR, this Draft SEIR specifically evaluates whether these changes could result in a new significant impact that was not evaluated in the General Plan EIR and/or substantially increase the severity of significant impacts that were identified in the EIR.

Under CEQA Guidelines Section 15162, a Subsequent EIR must be prepared if any the following conditions are met:

1. Substantial changes are proposed in the project which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken, which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified, as complete or the negative declaration was adopted, shows any of the following:
  - a) The project will have one or more or more significant effects not discussed in the previous EIR or negative declaration;
  - b) Significant effects previously examined would be substantially more severe than shown in the previous EIR;
  - c) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternative; or
  - d) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Section 15163 of the CEQA Guidelines states:

- (a) The Lead or Responsible Agency may choose to prepare a supplement to an EIR rather than a Subsequent EIR if:
  - (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
  - (2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

Because only minor changes would be necessary to make the General Plan EIR adequate to address the proposed project, the City has prepared a supplement rather than a subsequent EIR. The proposed project would require changes to the General Plan Transportation Element, which would constitute changes to the General Plan. Specifically, changes to the Transportation Element would incorporate VMT into relevant goals, policies, and actions and would amend existing intersection level of service (LOS) policy language. The proposed revisions to the General Plan and related documents are identified in Chapter 2, Project Description. The impacts of the proposed changes are evaluated in Chapter 3, Transportation and Circulation. In addition, the City's ECAS will be updated and GHG emission reduction measures will be identified to ensure consistency with SB 32.

The proposed project would not alter the conclusions of the General Plan EIR in any impact area other than transportation and GHG emissions. No changes in land use are proposed, so there would not be an increase in development activity over the levels evaluated in the General Plan EIR. No new development would be planned or constructed as a result of the proposed project. The proposed project would also not otherwise substantially alter the City's ability to achieve its GHG reduction goals. Policies and actions to reduce VMT would result in decreases in air pollutant emissions and noise levels on local streets, but not enough to alter the significance conclusions of the General Plan EIR. Therefore, the analysis and conclusions in the General Plan EIR regarding traffic-related impacts (e.g., air quality and noise) would remain unchanged. In addition, because the proposed project would not alter land use designations or locations, or development levels, the growth inducement and other CEQA considerations discussed in Chapter 6 of the General Plan EIR would not be affected by the proposed project (with the exception of cumulative traffic impacts, which are addressed in Chapter 3 of this Draft SEIR).

The proposed changes to the Transportation Element and the ECAS do not substantially change the findings regarding alternatives. The SEIR identifies a significant impact related to VMT. While mitigation measures would reduce the VMT impact, it cannot feasibly be reduced to a less-than-significant level. The General Plan EIR includes three alternatives to the proposed project: the No Project Alternative, the Focused Growth Alternative, and the Town Grid Alternative. The General Plan EIR analysis found that VMT and GHG would be reduced, but not to a less-than-significant level under the Focused Growth Alternative and the Town Grid Alternative. Therefore, the General Plan EIR alternatives analysis remains valid, and a revised alternative analysis is not included as part of the SEIR. Project Alternative.

## 1.2 SEIR Process

### Notice of Preparation

In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was circulated for public and agency review from September 28, 2020 through October 27, 2020 (included as Appendix A).

The City held a public scoping meeting on October 20, 2020. Additional meetings were held prior to the release of the Draft SEIR with the Planning Commission on January 5 and January 19, 2021, and with the City Council on January 26, 2021. Responsible agencies and members of the public were invited to provide input on the scope of the SEIR. Comments from agencies and the public in response to the NOP are provided in Appendix A. General concerns and issues raised in response to the NOP are summarized in the Executive Summary and addressed in the introduction of the technical sections included in Chapter 3 of this Draft SEIR.

### Draft SEIR and Public Review

This Draft SEIR is being circulated for public review and comment for a period of 45 days. During this period, the public, organizations, and public agencies can submit comments to the lead agency on the Draft SEIR. Release of this Draft SEIR marks the beginning of a 45-day public review period pursuant to CEQA Guidelines Section 15105. The 45-day public review period for the Draft SEIR is identified in the Notice of Availability. The public can review the Draft SEIR and the 2015 General Plan FEIR at the following address during normal business hours (Monday through Friday, 8:30 a.m. to 5 p.m., by appointment) City of Vacaville Community Development Department, 650 Merchant Street, Vacaville, or on the City's website at [www.ci.vacaville.ca.us/](http://www.ci.vacaville.ca.us/).

The City encourages all comments on the Draft SEIR be submitted in writing. All comments or questions regarding the Draft SEIR should be addressed to:

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Vacaville, California 95688  
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### Final SEIR and SEIR Certification

Upon completion of the Draft SEIR public review period, a Final SEIR will be prepared that will include written comments on the Draft SEIR received during the public review period and the City's responses to those comments. The Final SEIR will also include the Mitigation Monitoring Program (MMP) if mitigation measures are required, prepared in accordance with Section 15097 of the CEQA Guidelines (also Public Resources Code Section 21081.6). The Final SEIR will address any revisions to the Draft SEIR made in response to agency or public comments. The Draft SEIR and Final SEIR together will comprise the SEIR for the proposed project. Before the City can review the project for approval, it must first certify that the SEIR has been completed in compliance with CEQA, that the City Council has reviewed and considered the information in the SEIR, and that the SEIR reflects the independent judgment of the City.

## 1.3 Scope of the Draft SEIR

Based on a review of the project and comments received during the scoping period, the City determined that a SEIR should be prepared that addresses the following technical issue areas:

- Transportation and Circulation
- Greenhouse Gas Emissions

This SEIR evaluates the direct impacts, reasonably foreseeable indirect impacts, and cumulative impacts resulting from the proposed project using the most current information available and in accordance with the provisions set forth in CEQA and the CEQA Guidelines. In addition, the SEIR recommends potentially feasible mitigation measures, where possible, and project alternatives that would reduce or eliminate significant adverse environmental effects.

### Organization of the Draft SEIR

**Chapter ES, Executive Summary**—Summarizes the elements of the project and the environmental impacts that could result from implementation of the proposed project and provides a table that lists impacts, describes proposed mitigation measures, and indicates the level of significance of impacts before and after mitigation.

**Chapter 1, Introduction and Scope of the Draft SEIR**—Provides an overview of the SEIR process and describes the intended use of the SEIR and the review process.

**Chapter 2, Project Description**—Provides a detailed description of the proposed project, including location, background information, project objectives, and technical characteristics.



**Chapter 3, Environmental Impacts and Mitigation Measures**—Describes the baseline environmental setting and provides an assessment of potential project impacts for each technical issue area presented. As discussed above, the focus of a SEIR is on those areas where the revisions to the project or changed circumstances could result in new or substantially more severe impacts, which, for the proposed project, are limited to transportation impacts and GHG emissions. Each resource section begins with a description of the environmental setting of the study area and the regulatory setting as it pertains to projects in the City. The environmental setting provides a point of reference for assessing the environmental impacts of the proposed project. The setting description is followed by an impacts and mitigation measures discussion (project-specific and cumulative).

**Chapter 4, EIR Preparation**—Lists report authors who provided technical assistance in the preparation and review of the SEIR.

**Appendices**—Includes various documents and data that support the analysis presented in the Draft SEIR, including the Notice of Preparation and scoping comments received by the City.

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## 2 Project Description

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### 2.1 Introduction

The City of Vacaville adopted its General Plan and certified the General Plan EIR on August 11, 2015. The General Plan establishes guiding principles and community development goals that reflect the values, ideals, and aspirations of the City through 2035. The General Plan addresses all aspects of development including land use, transportation, housing, economic development, public facilities and infrastructure, and open spaces, among other topics. The General Plan sets forth goals, policies, and actions to attain the desired type, location, and level of development, including goals policies and actions specific to transportation and circulation. The proposed project would amend the City's General Plan Transportation Element to include policy direction on evaluating an increase in new vehicle trips using the number of vehicle miles traveled (VMT) in addition to updating the City's Energy and Conservation Action Strategy (ECAS) to address the State's current climate action goals that go beyond 2020 in order to continue to provide CEQA streamlining for projects consistent with the General Plan and the ECAS.

### 2.2 Project Location

The project location includes the entire City limits and the City's planning area and Sphere of Influence, which includes approximately 98 square miles, as shown in Figure 2-1. The City lies in a geological transition zone between the Sacramento Valley to the east and the Coast Ranges to the west. The City is located in Solano County between the cities of Dixon and Fairfield. Interstate 80 (I-80) bisects the middle of the city. Along the I-80 corridor the City of Fairfield is located approximately 10 miles to the southwest while the City of Dixon is located approximately 12 miles northeast.

### 2.3 Project Background

The Transportation Element of the City's General Plan establishes the City's transportation network that supports automobile mobility while also supporting walking and bicycling, improving transit service to key destinations, conserving energy resources, and reducing greenhouse gas (GHG) emissions and air pollution. The Transportation Element includes policies to address these issues, as well as parking, goods movement, airports and transportation funding. As noted in the Transportation Element, "land use patterns and transportation systems are directly related. Land use decisions drive the need for a transportation system, while the capacity of the transportation network may support or constrain land use options." To address the need to better evaluate the transportation impacts created by new development, Senate Bill (SB) 743 was signed into law in 2013. SB 743 is intended to promote the State's goals of encouraging infill development, alternative transportation, and reduced GHG emissions. To promote these goals new methods of evaluating transportation impacts under the California Environmental Quality Act (CEQA), specifically VMT was adopted. Evaluating transportation impacts using VMT is an alternative to the existing measures of congestion and delay (typically expressed as level of service [LOS]). As a result of SB 743, the CEQA Guidelines were revised to identify VMT as the most appropriate metric to evaluate a project's transportation impacts, which went into effect on July 1, 2020. The City proposes to update its General Plan Transportation Element policies to implement the VMT impact metric. The City's proposed VMT standard of significance would be based on the recommendations put forth by the State, as described in Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, December 2018).

The Transportation Element includes level of service (LOS) standards for measuring the operating conditions experienced by roadway users, and applies quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. LOS standards for signalized and unsignalized intersections, and roadway segments are included in Goal TR-3, Policies TR-P3.1 through TR-P3.5, TR-P3.7 through TR-P3.9, TR-P4.1, TR-P4.2, TR-P4.5, TR-P5.1, TR-P6.2, and Actions TR-A3.3 and TR-A3.4. Policy TR-P3.1 establishes the City's desire to maintain LOS C at all intersections and interchanges; Policy TR-P3.2 sets a standards of LOS D at signalized and unsignalized all-way stop sign controlled intersections. Policies TR-P3.4 and TR-P3.5 provide limited exceptions to meeting this LOS.

The ECAS was also adopted in 2015 along with the General Plan. The ECAS is a long-range strategy for the City to reduce GHG emissions and achieve greater conservation of resources with regards to transportation and land use, energy, water, solid waste, and open space. When the ECAS was prepared it included measures and implementation actions to reduce GHG emissions to meet the prior State goal that established a target of reducing Statewide GHG emissions to 1990 levels by 2020. In 2016, the State passed new legislation under SB 32 which requires reducing Statewide GHG emissions to 40% below 1990 levels by 2030. To meet the current State goal the ECAS will be revised and updated.

## 2.4 Project Description

The proposed project contains two components: (1) amending the Transportation Element of the General Plan; and (2) updating the ECAS. Each component of the project is described in more detail below.

### **Amend Transportation Element and Establish VMT Thresholds**

The City proposes to revise and update the Transportation Element of the City's General Plan to include background on SB 743, which requires an evaluation of Vehicle Miles of Travel (VMT) as the primary metric used to identify transportation impacts in CEQA documents. Compliance with SB 743 does not preclude the City from maintaining LOS policies in its General Plan and Municipal Code. However, it prevents the City from using LOS or other delay-based metrics to evaluate the potential significance of transportation impacts for CEQA purposes.

General Plan goals, policies and actions to be amended include the following:

- Add Goal TR-3. Take proactive steps to reduce Greenhouse Gas Emissions caused by Vehicle Miles Travelled in Vacaville.5
- Add new policies and implementation actions that address reducing VMT in the City, including the following:
  - Pursue an overall land use / transportation relationship that becomes more efficient over time, as measured by improved VMT efficiency (i.e., VMT per dwelling unit or per thousand square feet of floor space).
  - Evaluate development proposals using VMT measurement techniques and significance thresholds from the Senate Bill (SB) 743 Implementation Guidelines for the City of Vacaville.
    - Update the Senate Bill (SB) 743 Implementation Guidelines for the City of Vacaville as needed (i.e., due to major changes in land use, transportation system disruptions, changes in technology for estimating VMT, etc.).
  - Consider the potential effect on VMT when evaluating proposed transportation improvements.

- Require feasible mitigation measures for significant VMT impacts and monitor whether those measures are achieving the intended outcomes.
  - Establish specific monitoring protocols and processes for mitigation measures aimed at reducing VMT.
- Amend existing policies that state specific LOS thresholds shall be required and delete policies that are no longer relevant.

The proposed VMT thresholds follow the recommendations of the OPR Technical Advisory:

- Certain projects are assumed to have a less-than-significant impact, including small projects, projects near major transit stops or on major transit corridors, and affordable housing projects.
- A residential project which exceeds a level of 15 percent below existing citywide VMT per capita may indicate a significant transportation impact.
- An employment project which exceeds a level of 15 percent below existing citywide VMT per employee may indicate a significant transportation impact.
- A retail project that increases existing citywide total VMT may indicate a significant transportation impact.

As part of updating the Transportation Element, the City's baseline and cumulative VMT would be established and guidance provided indicating what areas of the City would meet the VMT threshold. This also includes updating the City's travel demand model to ensure this tool provides defensible estimates for developing the City's baseline and cumulative VMT estimates.

### Updates to the ECAS

The City proposes to update the ECAS to focus on supporting the State's 2030 GHG goals which includes reducing Statewide GHG emissions to 40% below 1990 levels by 2030. As part of this update, the City has developed a projection of its 2030 business as usual (or BAU) GHG emissions including a target reduction consistent with SB 32. The 2030 GHG emissions were developed relying on, in part, the communitywide GHG emission inventory for year 2008 (this is the most recent information available). To update the 2030 GHG forecast, various factors were reviewed including population, VMT (based on the transportation modeling), General Plan land use designations, and federal and State-mandated GHG emission reduction measures. The existing policies and implementation strategies are proposed to be updated and new strategies added to meet the 2030 reduction targets and maintain progress of the 2050 reduction targets.

### Project Objectives

The proposed project is consistent with the objectives of the City's General Plan. These include:

- Preserve its "small town feel" by continuing to be a family-friendly city.
- Promote a balance of high-quality housing and commercial development within the Urban Growth Boundary.
- Support existing businesses while attracting new businesses, particularly those that reflect community aspirations.
- Foster community-oriented neighborhoods that are diverse, attractive, safe, walkable, and affordable.
- Maintain its unique character by preserving historic and cultural resources.
- Meet the transportation challenges of the future, so that people can travel safely and conveniently on foot or by car, air, bicycle, and transit.

- Emphasize and protect natural and scenic features, such as open spaces, ridgelines, and creeks that define Vacaville’s setting and atmosphere.
- Ensure that development adheres to basic principles of high quality design.
- Continue to strengthen Vacaville’s Downtown culture and identity, supporting a vibrancy that will draw residents and visitors.
- Protect its unique identity through the preservation of agricultural lands and the creation of new park and open space lands.
- Protect public health, safety, and the environment by taking steps to reduce noise and air pollution, conserve water and energy, and prepare for natural and man-made disasters.
- Continue to provide beautiful parks, exciting cultural and recreational amenities, and civic institutions that inspire community pride.
- Encourage and support high quality schools.
- Enhance the cultural environment in the city by promoting the arts and cultural activities.
- Welcome people from all backgrounds, ages, income levels, and physical capabilities and invite them to become integral, long-term members of the community.
- Promote the health of its residents by providing a safe environment and increased opportunities for physical activity.
- Look ahead to plan for expected population growth and allow landowners to maintain economic use and value of their property.

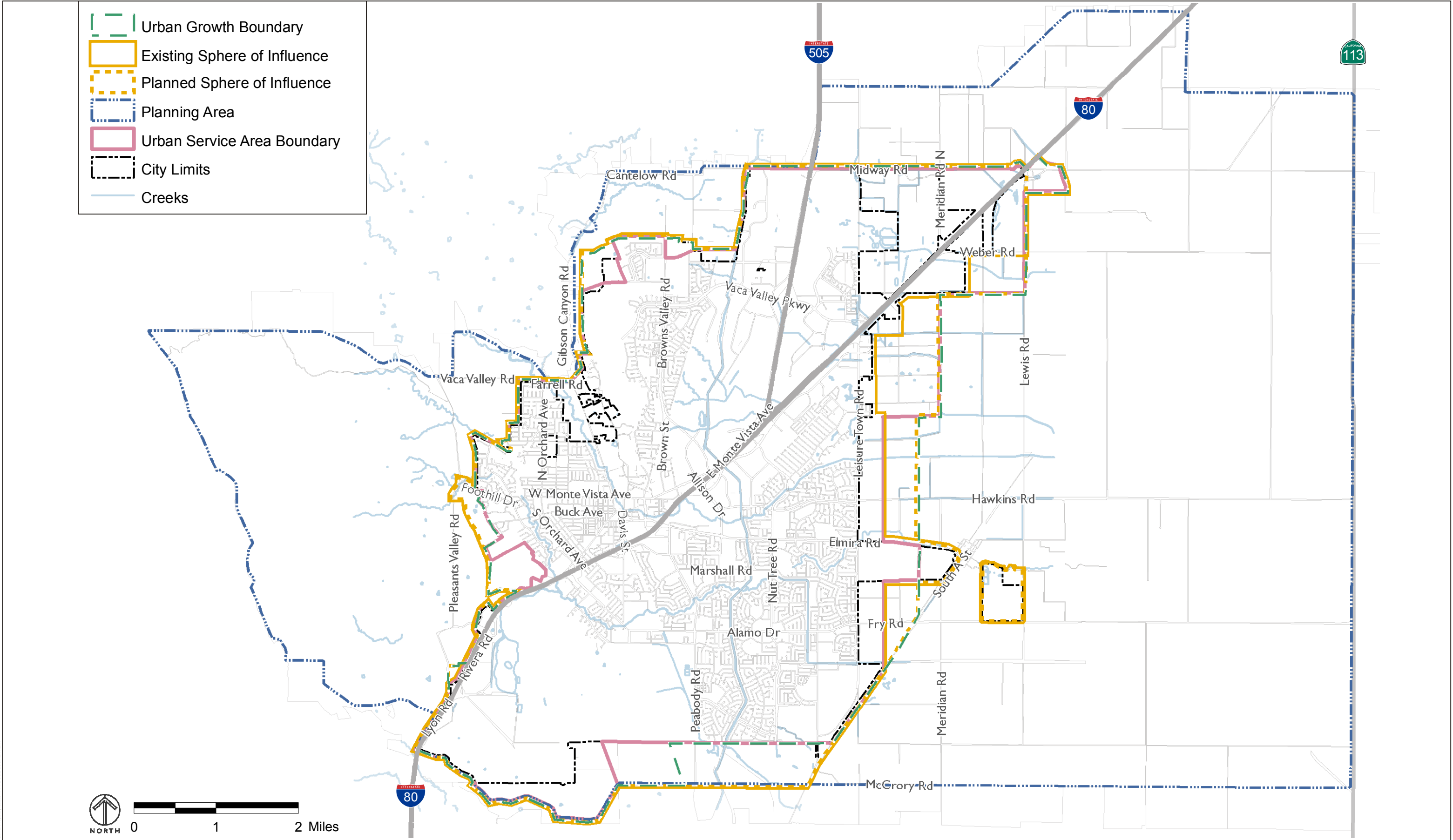
## 2.5 Project Approvals

The following actions would be taken by the City Council in order to implement the proposed project: Certify that the City’s General Plan EIR as supplemented by the SEIR adequately addresses the significant effects of the proposed project pursuant to CEQA and the CEQA Guidelines;

- Amend the Transportation Element of the 2015 General Plan as described above;
- Adopt the updated Energy and Conservation Action Strategy (ECAS)

Any local agency seeking to amend its general plan within the airport influence area (AIA) of a public use airport must first refer its proposed amendments to the airport land use commission for a determination if the proposed action is consistent with the airport land use compatibility plan, per Government Code Section 65302.3(a) and Public Utilities Code 21676(a). The City’s General Plan area includes the Nut Tree Airport and partially falls within the Travis Air Force Base AIA. Therefore, the update to the Transportation Element will be referred to the Solano County Airport Land Use Commission for a finding of consistency.

No other federal, State or local agencies would have jurisdiction over the project.



SOURCE: City of Vacaville Community Development Department 2016



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## 3.1 Transportation

This chapter describes potential environmental impacts related to transportation in the City of Vacaville associated with the proposed amendments to the Transportation Element of the City's General Plan and updates to the Energy and Conservation Action Strategy (ECAS). The impact analysis focuses on vehicle miles traveled (VMT) as the key metric for evaluating the City's transportation network. To provide context for the impact analysis, this chapter begins with a discussion of the environmental setting of the City's existing transportation system. Next, the regulatory framework is described, which provides part of the basis for impact significance thresholds used in the impact analysis. The chapter concludes with significance criteria, impact analysis findings, an examination of proposed changes to adopted Transportation Element policies, recommended mitigation measures, and the significance conclusion.

This chapter updates the transportation analysis of the General Plan EIR, specifically Section 4.14, Transportation. The General Plan EIR's transportation analysis relied upon LOS as the primary metric for evaluating transportation impacts. As described in Chapter 1.0, Introduction, of this EIR, level of service (LOS) may no longer be considered as a basis for evaluating transportation impacts under CEQA. Therefore, impacts TRA-1 through TRA-37 of the General Plan EIR have been superseded by this Supplemental EIR. The General Plan EIR's evaluation of conflicts with an adopted program, plan, ordinance or policy addressing transit, roadway, bicycle and pedestrian facilities remains a valid environmental issue and is described in this section.

Scoping comments related to transportation were received in response to the NOP for this SEIR. The California Department of Transportation (Caltrans) issued a comment letter supporting the project's stated objectives including the promotion of VMT as the citywide metric to understand the impact of development on the transportation network and the environment. The letter also mentioned that focus on meeting these objectives as well as the City's Energy and Conservation Action Strategy (ECAS) will assist the State in meeting statewide goals aimed at lowering greenhouse gas emissions. The NOP and scoping comments are provided in Appendix A of this Draft EIR.

### 3.1.1 Existing Conditions

This section provides contextual background to the City's transportation system. The General Plan addresses the overall planning and development of the circulation system for residents, employees, and visitors in a multi-modal framework. The General Plan addresses the correlation between the quality of the transportation network and the quality of life.

The City of Vacaville is located along the Interstate 80 (I-80) and Interstate 505 (I-505) corridors in Solano County. The City is situated about 35 miles west of Sacramento, and a slight longer distance east of cities in the East Bay (e.g., 38 miles to Walnut Creek). The following sections provide an overview of the City's transportation system, commute characteristics of its residents, and existing VMT.

#### Transportation System

The transportation system serving Vacaville consists of systems of roadways, transit facilities/services, and bicycle/pedestrian facilities.

### ***Roadway System***

Vacaville is accessed by 11 distinct full or partial interchanges along from I-80 and I-505. Access to the city is also provided by surface streets such as Peabody Road, Vanden Road, Pleasants Valley Road, Gibson Canyon Road, Browns Valley Road, Midway Road, Fry Road, Hawkins Road, and Weber Road. Within the City, a series of arterials, collectors, and residential streets are provided. Refer to **Figure 3.1-1** for the City's existing roadway network.

### ***Transit System***

Fixed-route bus service within the City is provided by City Coach, which is operated by the City of Vacaville. Service is provided by three routes operated throughout much of the City. Most of its routes either begin or end at one of the two City transportation centers: the Vacaville Transit Plaza, located at the corner of Monte Vista Avenue and Cernon Street in the Downtown, and the Vacaville Transportation Center, located at the northeasterly corner of Allison Drive and Ulatis Drive.

### ***Bicycle/Pedestrian System***

Sidewalks are present on many City streets. Crosswalks are present at both signalized and unsignalized crossings. Bicycle routes include both on-street and off-street facilities located throughout the City as shown on **Figure 3.1-2**.

### ***Truck Routes***

The City has established an extensive truck route network on which vehicles exceeding a gross vehicle weight rating of 5 tons (i.e., the City's definition of "trucks") must travel unless they are destined for, or originated from, points within the city. The shortest and most direct routes must be used to and from the truck routes, and/or between locations within the city. Designated truck routes within the City are shown on **Figure 3.1-3**.

### ***Aviation System***

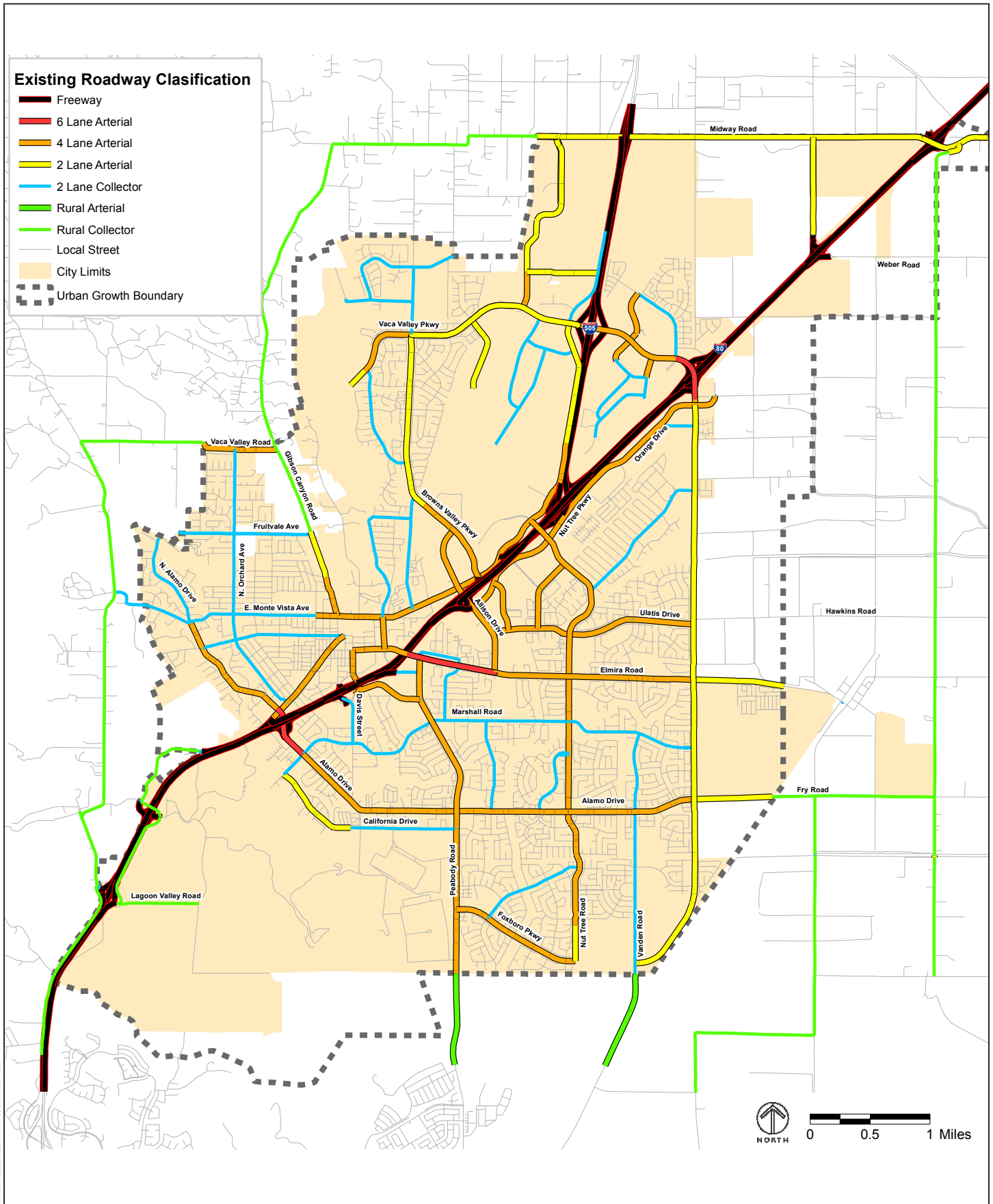
The Nut Tree Airport, which is situated in Vacaville a short distance north of I-80, serves as a valuable resource for business and recreational air travel.

### **Commute Characteristics of Vacaville Residents**

The automobile is the most widely used mode of transportation in Vacaville. According to the U.S. Census Bureau, 2019 American Community Survey<sup>1</sup>, 95 percent of Vacaville residents who work outside their home use a private vehicle for travel to and from work. This resource also shows the amount of time commuters take to get to work. Based on the data, about 29 percent of workers living in Vacaville traveled to work in less than 15 minutes, 30 percent traveled to work in 15 to 29 minutes, 27 percent traveled to work in 30 to 59 minutes, and 15 percent traveled to work in 60 minutes or more. Average travel time to work was estimated to be 29 minutes.

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<sup>1</sup> Accessed at (on 12/9/2020): <https://data.census.gov/cedsci/table?q=commute%20mode%20vacaville%20ca&tid=ACST1Y2019.S0801&hidePreview=false>

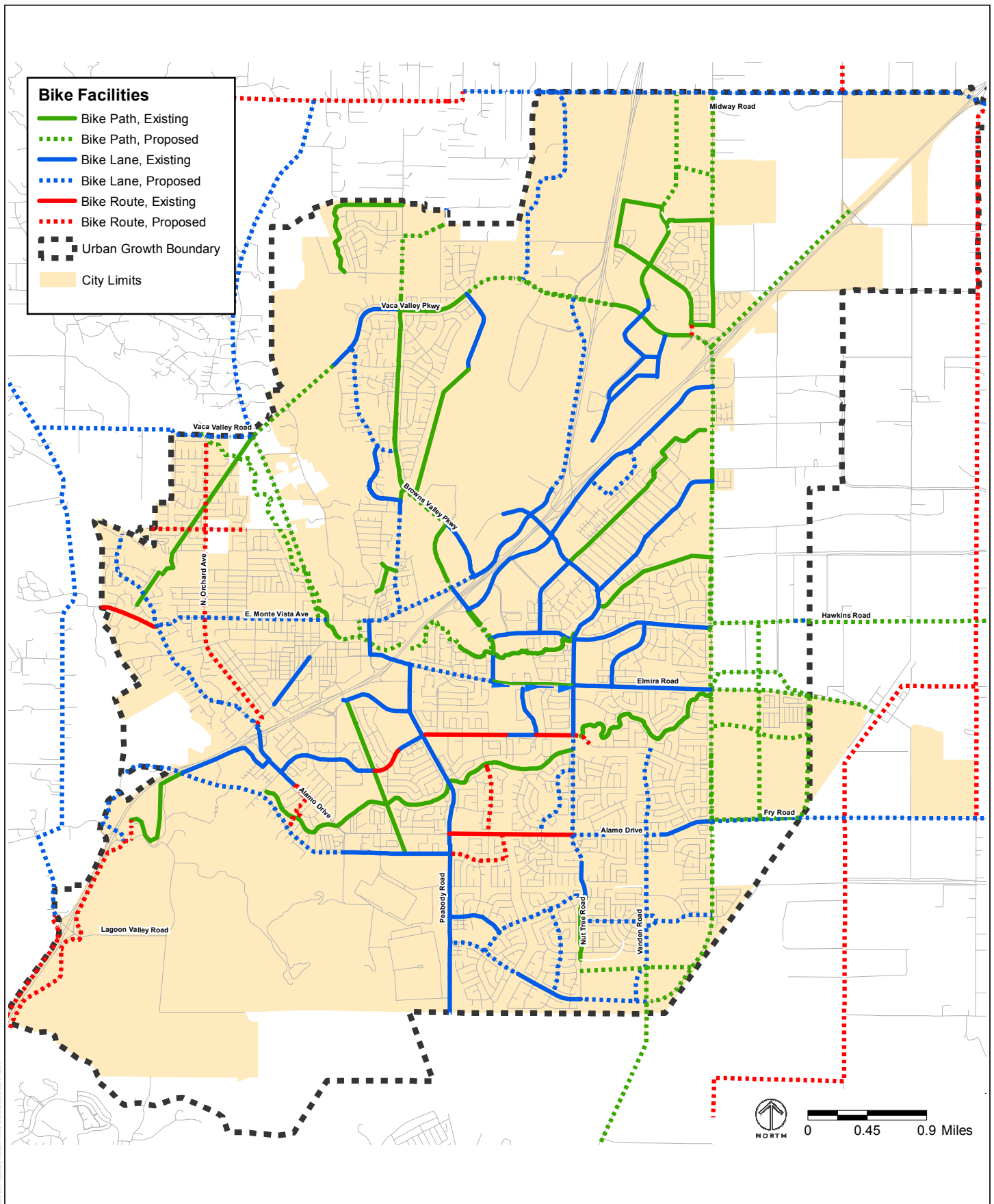


SOURCE: City of Vacaville 2012, Solano Transportation Authority 2011

FIGURE 3.1-1

Existing Roadway Network

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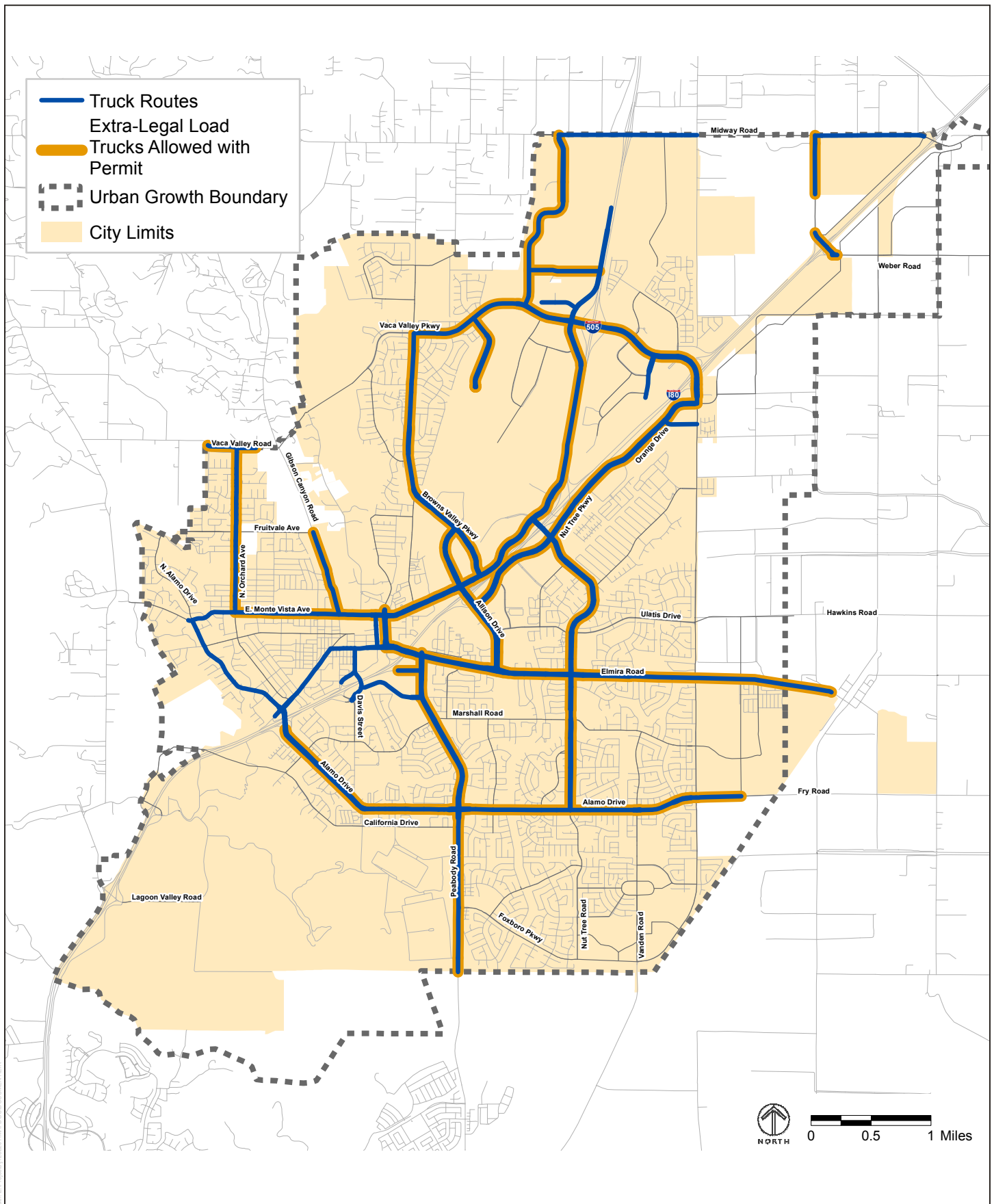


SOURCE: City of Vacaville 2012, Solano Transportation Authority 2011

FIGURE 3.1-2

## Bicycle Routes

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SOURCE: City of Vacaville 2012, Solano Transportation Authority 2011

FIGURE 3.1-3

Truck Routes



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### City of Vacaville Base Year Travel Demand Model

Table 3.1-1 displays the base year (2015) model land use summary for the primary trip generating land uses in the City.

**Table 3.1-1. City of Vacaville Base Year Model Land Use Summary**

| Land Use <sup>1</sup>       | Units <sup>2</sup> | Quantity |
|-----------------------------|--------------------|----------|
| Single-Family Units         | du                 | 24,867   |
| Multi-Family Units          | du                 | 7,187    |
| Age-Restricted Units        | du                 | 2,707    |
| Office                      | ksf                | 928      |
| Highway Commercial          | ksf                | 1,491    |
| General Retail <sup>3</sup> | ksf                | 7,186    |
| Industrial                  | ksf                | 3,751    |
| Warehouse                   | ksf                | 4,385    |
| Students                    | Students           | 15,648   |

**Notes:**

<sup>1</sup> Land uses shown are the primary “trip generating uses” within the City.

<sup>2</sup> du = dwelling units. ksf = Thousand square feet of floor space.

<sup>3</sup> General retail covers more specific retail uses such as supermarkets, restaurants and hotels.

**Sources:**

a City of Vacaville Base Year Travel Demand Model.

The US Census reports the following data for 2015 (year chosen to coincide with base year model validation date) for Vacaville<sup>2</sup>:

- There were 32,696 total jobs located within the Vacaville City limits. The most common industry was health care/social assistance (22 percent) followed by retail trade (17 percent) and accommodation/food service (11 percent). Jobs in the information, finance, insurance, real estate, professional/scientific/technical, management, and public administration sectors accounted for a combined 15 percent of all jobs.
- Approximately 54 percent of jobs paid less than \$40,000 per year.
- About 77 percent of employed persons living in Vacaville commuted to work destinations outside the City.
- About 72 percent of jobs in Vacaville are filled by persons living outside the City.

Based on the above data, the City had an overall jobs-housing ratio of 1.02 in 2015 (based on the 32,696 total jobs and 32,054 dwelling units, excluding age-restricted units). So, while this jobs-housing ratio may appear ‘balanced’, the discrepancy between housing costs and wages within the City has contributed to large proportions of inflows and outflows of workers, as evidenced by the above commuting statistics.

### Vehicle Miles Traveled (VMT)

By definition, one VMT occurs when a vehicle is driven on a roadway for one mile (regardless of how many people are traveling in the vehicle). VMT is used to measure the performance of the transportation network and to evaluate potential transportation-related impacts on the environment. VMT is often expressed on an efficiency basis (i.e., per unit, per resident, per thousand square feet, etc.) to understand whether people are traveling more or less by vehicle over time, across different areas, or across different planning scenarios. When the efficiency VMT metrics

<sup>2</sup> Source (accessed on December 10, 2020): <https://onthemap.ces.census.gov/>

show a decline in VMT over a baseline condition, this indicates that the transportation network is operating more efficiently, and that people have more travel choices.

**Table 3.1-2** shows the Citywide Land Use Summary VMT from the base year travel demand model. This table shows that the City's land uses generate approximately 6.79 million VMT each weekday.

**Table 3.1-2. City of Vacaville Base Year Travel Demand Model – Citywide Land Use Summary VMT**

| Area              | VMT <sup>1</sup> |
|-------------------|------------------|
| City of Vacaville | 6,785,800        |

**Notes:**

<sup>1</sup> Represents all trips that begin or end within Vacaville. Portion of trips beyond Vacaville City limits also included. Trips passing through the City without stopping (e.g., through travel on I-80) are excluded.

**Sources:**

a City of Vacaville.

**Table 3.1-3** displays the average VMT per land use type from the base year travel demand model. The values shown in Table 3.1-3 are used as the baseline setting, against which the VMT by land use type associated with the Proposed General Plan is evaluated. The values from Table 3.1-3 appear reasonable based on the following:

- Multi-family units generate about two-thirds of the VMT as single-family units. This is intuitively correct given that they also generate about two-thirds of the number of daily trips as single-family units.
- Age-restricted units generate considerably less travel than the other unit types due to both limits of number of household occupants and low percentage of residents who are employed.
- The average office VMT of 91 miles per KSF of office space is reasonable given that office generates about 10 daily trips per KSF, meaning an average trip length of about nine miles.
- Highway commercial has the largest VMT per KSF due to a substantial amount of its trips being attracted from regional travel routes such as I-80 and I-505.
- The industrial and warehouse categories have the lowest VMT per KSF due to their much lower daily trip rates when compared to office and retail.

**Table 3.1-3. City of Vacaville Base Year Model Average VMT by Land Use Type**

| Land Use <sup>1</sup>       | Units <sup>2</sup> | Citywide Average VMT | Significance Threshold <sup>3</sup> |
|-----------------------------|--------------------|----------------------|-------------------------------------|
| Single-Family Units         | du                 | 86.4                 | 73.4                                |
| Multi-Family Units          | du                 | 58.5                 | 49.7                                |
| Age-Restricted Units        | du                 | 37.6                 | 32.0                                |
| Office                      | ksf                | 90.8                 | 77.2                                |
| Highway Commercial          | ksf                | 158.2                | 134.5                               |
| General Retail <sup>4</sup> | ksf                | 121.5                | 103.3                               |
| Industrial                  | ksf                | 34.6                 | 29.4                                |
| Warehouse                   | ksf                | 17.9                 | 15.2                                |

**Notes:**

<sup>1</sup> Land uses shown are the primary “trip generating uses” within the City.

<sup>2</sup> du = dwelling units. ksf = Thousand square feet of floor space.

<sup>3</sup> Significance threshold is a 15 percent reduction from the Citywide average VMT for each land use category.

<sup>4</sup> General retail also covers more specific retail uses such as supermarkets, restaurants, hotels, etc. The model does not contain separate land use categories for those use types.

**Sources:**

- a City of Vacaville Base Year Travel Demand Model.

## 3.1.2 Relevant Plans, Policies, and Ordinances

### Federal

There are no federal plans, policies, regulations, or laws related to transportation that would affect the project. However, federal regulations relating to the Americans With Disabilities Act, Title VI, and Environmental Justice relate to transit service.

### State

#### ***Senate Bill 743***

SB 743, passed in 2013, required the California Governor’s Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, “automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any.” In December 2018, OPR published *Technical Advisory on Evaluating Transportation Impacts in CEQA*, which provided guidance for implementing SB 743. The *Technical Advisory* concluded that “achieving 15 percent lower VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State’s emissions goals”. On December 28, 2018, the Resources Agency adopted CEQA Guidelines Section 15064.3. Under this guideline, VMT is the primary metric used to identify transportation impacts. On July 1, 2020, the provisions of Section 15064.3 became effective statewide.

#### ***California Department of Transportation***

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS). Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the SHS would need to be approved by Caltrans.

In May 2020, the California Department of Transportation (Caltrans) published the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide (TISG)*, which replaced its *Guide for the Preparation of Traffic Impact Studies* (2002). The TISG generally endorses the policies, technical approaches, and recommendations from OPR’s *Technical Advisory*. It also indicates that Caltrans intends to “transition away from requesting LOS or other vehicle operations analyses of land use projects”, instead placing the focus on VMT and safety.

#### ***California Air Resources Board (ARB)***

The ARB has specific guidance for VMT thresholds in the *ARB 2017 Scoping Plan-Identified VMT Reductions and Relationship to State Climate Goals* (January 2019). This document provides recommendations for VMT reduction thresholds that would be necessary to achieve the state’s GHG reduction goals and acknowledges that the SCS targets alone are not sufficient to meet climate goals. ARB concluded that a 14.3-percent reduction in total VMT per capita and a 16.8 percent reduction in light-duty VMT per capita (over current conditions; 2015-2018) was needed to meet these goals.

### Local

#### City of Vacaville General Plan

As proposed to be amended, the Transportation of Element of the City’s General Plan sets forth the following goals, policies, and actions that are directly or indirectly related to vehicle miles traveled.

**Goal TR-7** Provide a balanced, multimodal transportation network that meets the needs of all users

#### Policies

**Policy TR-P7.1** Continue to implement a local Complete Streets Policy.

**Policy TR-P7.8** Prioritize transportation improvements that support and enhance travel by transit, bicycle, and pedestrian modes to and from designated Priority Development Areas (PDA).

#### Actions

**Action TR-A7.5** Construct off-site transit facilities to enhance citywide transit service and to offset new developments’ impact on citywide congestion levels and greenhouse gas emissions.

**Action TR-A7.8** Consider including transportation improvements that will support and enhance travel by transit, bicycle, and pedestrian modes in updates to the Development Impact Fee program.

**Goal TR-8** Increase bicycling by improving the network of bikeway and support facilities

#### Policies

**Policy TR-P8.1** Construct the comprehensive network of on- and off-roadway bike routes identified in Figure TR-2 to encourage the use of bikes for commute, recreational, and other trips as part of new development and as funding allows in existing developed areas.

**Policy TR-P8.5** Enhance and improve bicycle connections between neighborhoods and between neighborhoods and significant destinations, such as parks, schools, transit stops and transit centers, shopping centers, and employment centers.

**Policy TR-P8.7** Encourage major employers to provide support facilities to encourage use of bikes for commute purposes.

#### Actions

**Action TR-A8.5** Seek funding to construct bicycle infrastructure to enhance the citywide bike route network and to offset existing and new development’s impacts on citywide congestion levels and greenhouse gas emissions.

**Goal TR-10** Reduce traffic impacts through transportation systems management (TSM) and transportation demand management (TDM).

### Policies

- Policy TR-P10.2** Work cooperatively with the Solano Transportation Authority (STA) to promote transportation demand management programs to reduce peak-period trip generation
- Policy TR-P10.3** Work with the Solano Transportation Authority (STA) to encourage major employers to adopt Transportation Systems Management (TSM) programs that will reduce peak-period trip generation by 20 percent or more from the vehicle trip generation currently observed at similar sites without a TSM program.
- Policy TR-P10.4** Encourage Transportation Demand Management (TDM) programs that limit vehicle use, such as ridesharing and public transit, over those that extend the commute hour, such as flex-time and staggered work hours, to provide greater benefits to regional air quality.

### Actions

- Action TR-A10.1** Amend Chapter 10.60, Transportation System Management, of the Vacaville Municipal Code, to be in compliance with State law.

**Goal TR-11** Support a comprehensive, convenient, and efficient transit system.

### Policies

- Policy TR-P11.2** Encourage the expansion of an inter-city public transit/bus system to link Vacaville with neighboring communities.
- Policy TR-P11.3** When financially feasible, support increased frequency and operational hours of public transit service consistent with current short- and long-range transit planning

## 3.1.3 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed amendments to the Transportation Element of the City's General Plan would result in a significant transportation-related impact if they would:

- Conflict or be inconsistent with CEQA Guidelines § 15064.3, (b)(1), which states that, for land use projects "[v]ehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact."
- Construct additional roadway capacity that would lead to induced travel and increased VMT.
- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

With regard to the first threshold, the City has selected a significance threshold for land use projects that is 15 percent below baseline conditions, as recommended in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Page 18 of the *Technical Advisory* states: “A general plan, area plan, or community plan may have a significant impact on transportation if proposed new residential, office, or retail land uses would in aggregate exceed the respective thresholds recommended above”.

With regard to the second threshold, the *Technical Advisory* indicates that transportation projects that would cause induced travel, as evidenced by an increase in VMT, would be considered to cause a significant impact. Thus, any increase in VMT caused by a roadway-capacity increasing project would be considered a significant impact. Appendix 2 to the *Technical Advisory* contains technical approaches for estimating the induced travel effects of transportation projects.

The last three items are analyzed based on information in the General Plan EIR.

### 3.1.4 Impact Analysis

#### Analysis Methodology

The transportation impact analysis relies primarily on the City of Vacaville travel demand model, which is a trip-based model that covers the entire City. It includes “external gateways” to reflect the freeway and surface street routes connecting the City to external areas (e.g., Peabody Road south of the City, I-80 east of the City) and appends trip lengths to those gateways to reflect the full distance of travel to external destinations such as Fairfield, Davis, the Bay Area, and Sacramento. The model uses a standard three-step trip generation, distribution, and assignment process (note that since a mode split component is not included, the model estimates vehicle trips only). The base year model was validated to 2015 conditions, while the cumulative model corresponds to 2050 conditions. Details about model land uses and roadway network assumptions are provided later in this chapter.

Because the proposed General Plan amendments do not include any modifications to the transportation system (and does not contemplate land use changes), this chapter focuses primarily on VMT both at a citywide level and for specific land use types and for specific roadway improvement projects. Following are definitions of three distinct types of VMT that are presented in this chapter.

- **Citywide Land Use VMT** – The values reported for this variable reflect the total VMT for all vehicle trips that have a trip end (i.e., origin or destination) in Vacaville. The VMT is not truncated at City boundaries (i.e., the entirety of a commute trip made by a Vacaville resident who works in Fairfield is counted). VMT associated with trips that pass through the city without stopping are excluded.
- **VMT by Land Use Type** – These values are calculated in the same manner as described directly above. For the residential uses, the VMT considers home-based trips only. Non-home-based trips by a resident cannot be tracked back to the household making the trip. Results are disaggregated at a traffic analysis zone (TAZ) level by land use type (e.g., residential, office, retail, etc.) to facilitate further detailed reviews of VMT efficiency in different parts of the City.
- **VMT Effect of Roadway Projects** – These values represent the net change in VMT caused by a given roadway widening or expansion project. The effect of the given project on VMT is calculated based a comparison (between the two model runs) of the summed VMT of all roadway links in the model (including on I-80 and I-505, as City roadway improvements may affect travel on these corridors).

### General Plan VMT

The City's existing General Plan contemplates considerable land use growth including buildout of the City with the exception of the northeast area planning area (i.e., southeast of I-80 between Leisure Town Road and Weber Road). **Table 3.1-4** displays the growth in land use by category within Vacaville between the base year model and cumulative year model.

This table indicates that non-residential growth is expected to far outpace residential growth. Whereas an approximate 40 percent increase in residential is planned, the amount of industrial and office space is expected to more than triple. This will cause a significant change in travel behaviors among City residents; specifically, a lower proportion of commute trips by City residents are expected to leave the City.

The General Plan also contemplates a number of roadway widening/expansion projects throughout the City as well as improvements to certain interchanges on I-80 and I-505 that serve city residents and businesses. These planned roadway improvements are shown on **Figure 3.1-4**.

**Table 3.1-4. City of Vacaville General Plan Land Use Summary**

| Land Use <sup>1</sup>       | Units <sup>2</sup> | Quantity  |              | Increase (Percent) |
|-----------------------------|--------------------|-----------|--------------|--------------------|
|                             |                    | Base Year | General Plan |                    |
| Single-Family Units         | du                 | 24,867    | 34,476       | 9,609 (39%)        |
| Multi-Family Units          | du                 | 7,187     | 10,197       | 3,010 (42%)        |
| Age-Restricted Units        | du                 | 2,707     | 2,790        | 83 (3%)            |
| Office                      | ksf                | 928       | 3,165        | 2,237 (240%)       |
| Highway Commercial          | ksf                | 1,491     | 2,499        | 1,008 (68%)        |
| General Retail <sup>3</sup> | ksf                | 7,186     | 10,927       | 3,741 (52%)        |
| Industrial                  | ksf                | 3,751     | 11,744       | 7,993 (213%)       |
| Warehouse                   | ksf                | 4,385     | 6,346        | 1,961 (45%)        |
| Schools                     | students           | 15,648    | 23,147       | 7,499 (48%)        |

**Notes:**

<sup>1</sup> Land uses shown are the primary "trip generating uses" within the City.

<sup>2</sup> du = dwelling units. ksf = Thousand square feet of floor space.

<sup>3</sup> General retail covers more specific retail uses such as supermarkets, restaurants and hotels.

**Sources:**

a City of Vacaville travel demand model.

### VMT Analysis

**Table 3.1-5** shows the Citywide Land Use VMT Summary from the cumulative year travel demand model, which represents General Plan buildout. This table shows that a 38 percent increase in VMT attributable to land use growth in the City is expected with General Plan buildout. This provides an early glimpse into the overall change in VMT efficiency with implementation of the General Plan as amended by the proposed project. Specifically, with the exception of age-restricted units, all land uses in Table 3.1-4 are projected to grow by more than 38 percent. Yet, the overall increase is just 38 percent. This result is being caused by an improved jobs-housing balance, in which fewer residents are required to commute long distance outside the City limits for work purposes.



**Table 3.1-5. City of Vacaville Cumulative Year Travel Demand Model – Citywide Land Use VMT Summary**

| Area              | Citywide Land Use VMT Summary <sup>1</sup> |              | Percent Increase |
|-------------------|--|--------------|------------------|
|                   | Base Year                                  | General Plan |                  |
| City of Vacaville | 6,785,800                                  | 9,381,610    | 38%              |

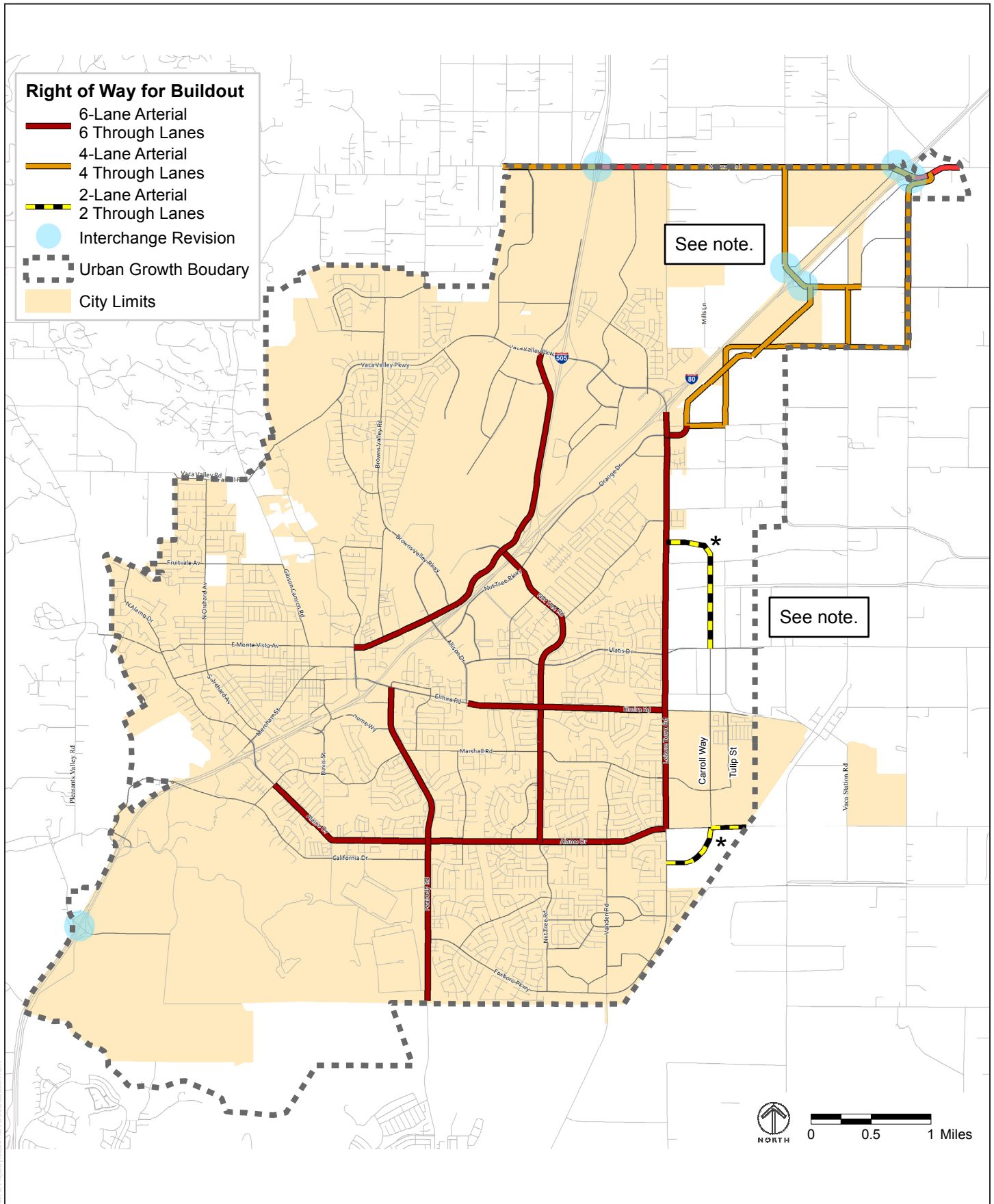
**Notes:**

<sup>1</sup> Represents all trips that begin or end within Vacaville. Portion of trips beyond Vacaville City limits also included. Trips passing through the City without stopping (e.g., through travel on I-80) are excluded.

**Sources:**

a City of Vacaville Cumulative Travel Demand Model.

**Table 3.1-6** displays the average VMT per land use type under the General Plan. Later, these values are compared against thresholds derived from the base year model (i.e., the baseline condition) to evaluate VMT efficiency by land use type.



SOURCE: City of Vacaville 2012, Solano Transportation Authority 2011

FIGURE 3.1-4

2050 Roadway Network

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**Table 3.1-6. City of Vacaville Cumulative Year Model Average VMT by Land Use Type**

| Land Use <sup>1</sup>       | Units <sup>2</sup> | Citywide Average VMT under General Plan Buildout |
|-----------------------------|--------------------|--|
| Single-Family Units         | du                 | 76.5   |
| Multi-Family Units          | du                 | 55.5   |
| Age-Restricted Units        | du                 | 35.0   |
| Office                      | ksf                | 83.4   |
| Highway Commercial          | ksf                | 158.1  |
| General Retail <sup>3</sup> | ksf                | 125.1  |
| Industrial                  | ksf                | 28.3   |
| Warehouse                   | ksf                | 15.7   |

**Notes:**

<sup>1</sup> Land uses shown are the primary “trip generating uses” within the City.

<sup>2</sup> du = dwelling units. ksf = Thousand square feet of floor space.

<sup>3</sup> General retail covers more specific retail uses such as supermarkets, restaurants and hotels.

**Sources:**

a City of Vacaville Cumulative Year Travel Demand Model

Like most models, the Vacaville travel demand model does not explicitly consider how emerging trends, new technologies, and evolving user preferences may shape the future of travel. Significant uncertainties exist at the present time that prevent explicit modeling of these new modes and emerging trends for the analysis of the General Plan. Some of these emergent changes that could influence future travel forecasts include:

- Substitution of internet shopping and home delivery for some shopping or meal-related travel.
- Substitution of telework for commute travel.
- New travel modes and choices including transportation network companies (TNCs) such as Uber and Lyft, car share, bike share, scooter share, and on-demand micro-transit.
- Automated and connected vehicles.

The impact of new modes on individual and household travel behavior also is not fully understood and is the subject of ongoing research. It would be speculative at this time to have made assumptions about their degree of impact in the cumulative condition analysis.

The City has selected 13 distinct roadway improvement projects for project-level VMT analysis. These facilities are listed in **Table 3.1-7**. For each facility, model runs were conducted using the base year and cumulative year version of the City’s travel demand model. The net change in VMT predicted by the model for each roadway improvement and for each horizon is reported in the table. These values represent “short-term” VMT change because they represent an initial set of travel behavior changes (e.g., change trip destination, change trip route, etc.) that may be expected. However, they do not capture the full effects of induced travel, which are described below. Table 3.1-7 indicates that the individual effect of most roadway projects would be a decrease in VMT, with reductions more significant under the General Plan buildout scenario. This is to be expected given the amount of growth planned within the City that will rely on the expanded/lengthened roadways for their travel needs. Without those projects, existing facilities may be close to capacity, resulting in rerouting of trips to longer routes.

Table 3.1-7. City of Vacaville Roadway Improvement Projects – Net Change in VMT

| #   | Roadway                               | Description of Improvement  | Length     | Net Change in VMT <sup>1</sup> |                       |
|---|---------------------------------------|---|------------|--------------------------------|-----------------------|
|   |                                       |   |            | Base Year                      | General Plan Buildout |
| 1   | Vaca Valley Parkway                   | Extend from Wrentham Dr to Gibson Canyon Road as a two-lane road                              | 4,200 ft.  | -2,965                         | -4,527                |
|   |                                       | Widen from four to six lanes from Crescent Dr to I-505 <sup>2</sup>                           | 4,750 ft.  | -201                           | -4,286                |
|   |                                       | Widen from two to four lanes from I-505 to Browns Valley Road                                 | 7,900 ft.  | +143                           | -4,394                |
| 2   | Browns Valley Road                    | Widen from two to four lanes from Browns Street to Vaca Valley Parkway                        | 7,250 ft.  | -155                           | -643                  |
| 3   | East Monte Vista                      | Widen from two to four lanes from County Airport Road to Vaca Valley Parkway                  | 7,900 ft.  | -162                           | -467                  |
| 4   | California Drive overcrossing of I-80 | Extend from California / Marshall to Cherry Glen Road as two-lane road                        | 3,900 ft.  | -755                           | -2,538                |
| 5   | Midway Road                           | Widen from two to four lanes from I-80 to western City limits <sup>3</sup>                    | 5,300 ft.  | +27                            | -198                  |
| 6   | Leisure Town Rd                       | Widen from two/four lanes to six lanes from Orange Drive to Fry Road                          | 17,400 ft. | +2,419                         | -8,989                |
| 7   | Nut Tree Road overcrossing of I-80    | Widen from four to six lanes from Orange Drive to East Monte Vista Avenue                     | 950 ft.    | -680                           | -823                  |
| 8   | Fry Road                              | Widen from two to four lanes from Leisure Town Rd to Carroll Way                              | 1,850 ft.  | -610                           | -190                  |
| 9   | Elmira Road                           | Widen from two to four lanes from Leisure Town Rd to Carroll Way                              | 1,850 ft.  | +96                            | +232                  |
| 10  | Hawkins Road                          | Widen from two to four lanes from Leisure Town Rd to Carroll Way                              | 1,850 ft.  | -577                           | +91                   |
| 11  | Orange Drive Extension                | Extend as two-lane road from Walnut Road to Weber Road  | 7,950 ft.  | -28                            | -50                   |
| 12  | Lagoon Valley Road/ I-80 interchange  | Reconstruct interchange <sup>4</sup>  | -          | 0                              | 0                     |
| 13  | Gibson Canyon Road                    | Widen to provide a two-way left-turn lane from East Hemlock Way to Farrell Drive <sup>4</sup> | -          | 0                              | 0                     |
| <b>Combined Effect of all Projects <sup>5</sup></b> |                                       |   |            | <b>+2,626</b>                  | <b>-33,158</b>        |

**Notes:**

<sup>1</sup> This is considered the short-term effect of each project on VMT. Refer to above text for details.

<sup>2</sup> Includes improvements at I-505/Vaca Valley Parkway interchange.

<sup>3</sup> Includes improvements at I-505/Midway Road interchange.

<sup>4</sup> This is not a capacity-increasing improvement. Therefore, model shows no net change in VMT.

<sup>5</sup> Values shown here are not the summation of each listed above, but rather the overall VMT change derived from including/excluding all projects from the City's base year and cumulative year models.

**Sources:**

a City of Vacaville Base Year and Cumulative Travel Demand Model.

Appendix 2 to the *Technical Advisory* provides an in-depth discussion of induced travel and ways of estimating it. Induced travel occurs when roadway capacity is expanded in an area of present or projected future congestion. The effect typically manifests over a number of years. Lower travel times make the modified facility more attractive to travelers, potentially resulting in any/all of the following:

- Longer trips (i.e., reduced travel time increases the attractiveness of destinations that are farther away),
- Mode choice changes (travel by automobile may become more appealing),
- Route changes (i.e., shifting away from slower routes, despite being longer in distance),
- New trips (i.e., increasing travel speeds can induce additional trips), and
- Land use changes (i.e., reduced travel times along a corridor) may lead to land development farther along that corridor).

While some of the above travel behavior changes would occur soon after a facility is built or expanded, other effects (e.g., land use changes) typically occur over a number of years. Most travel demand models are not able to fully capture the induced travel effects like those mentioned above.

To quantify induced travel demand, Appendix 2 of the *Technical Advisory* recommends the use of an induced travel VMT calculator, which is found on the website for the National Center for Sustainable Transportation at UC Davis.<sup>3</sup> The calculator allows users to estimate the VMT induced annually as a result of expanding the capacity of roadways in one of California's urbanized counties. The calculator was applied to estimate the combined induced VMT of the 13 projects shown in Table 3.1-7. **Table 3.1-8** shows the results and indicates that an induced VMT of approximately 130,000 per day would be expected with buildout of currently planned roadway improvements.

**Table 3.1-8. City of Vacaville Roadway Improvement Projects – VMT Caused by Induced Travel**

| Project(s)  | Induced Travel VMT Calculator <sup>1</sup> |        |                 |                 |
|---|--|--------|-----------------|-----------------|
|   | Inputs                                     |        |                 | Output          |
|   | Facility Type                              | County | Number of Miles | Daily VMT Added |
| City of Vacaville Roadway Improvements <sup>2</sup> | Class II and III <sup>3</sup>              | Solano | 31              | 129,863         |

**Notes:**

<sup>1</sup> Refer to <https://blinktag.com/induced-travel-calculator/index.html> for induced travel VMT calculator

<sup>2</sup> Refer to Table 3.1-7 for list of improvements.

<sup>3</sup> Class II and III improvements are on non-interstate freeways or expressways, and principal arterials, respectively.

**Sources:**

a Fehr & Peers, 2021.

<sup>3</sup> Calculator (accessed on December 22, 2020) is found at: <https://blinktag.com/induced-travel-calculator/index.html>

## Impacts and Mitigation Measures

**Impact TRA-1** Implementation of the City's General Plan would generate average VMT per dwelling unit and per thousand square feet of non-residential space that exceeds the applicable significance threshold. This impact is considered significant.

The City has selected a threshold of 15 percent below the City-wide average baseline VMT per dwelling unit (for residential, specific to unit type) or per KSF (for non-residential, specific to use type). Therefore, if any of the VMT metrics presented in Table 3.1-6 for the General Plan exceeded 85 percent of the value under the baseline condition, VMT impacts on transportation would be considered significant. **Table 3.1-9** displays this comparison.

This table indicates that for residential, office, industrial, and warehousing, the General Plan would have an average VMT that is less (i.e., more efficient) than the base year value. However, since the applicable threshold is 15 percent below the base value, the VMT threshold is only met for industrial space. An additional reduction ranging from three to ten percent would be needed for these categories to reach the applicable VMT threshold. The two retail categories would have average VMT that is slightly greater (i.e., less efficient) than the base year value. These uses would require a reduction ranging from 15 to 17 percent to reach the VMT threshold.

**Table 3.1-9. City of Vacaville VMT Thresholds for Land Uses**

| Land Use <sup>1</sup>       | Units <sup>2</sup> | VMT per Land Use Type        |                       |   | Reduction Needed to Achieve Threshold |
|-----------------------------|--------------------|------------------------------|-----------------------|---|---------------------------------------|
|                             |                    | Base Year Model <sup>3</sup> | General Plan Buildout | Threshold (i.e., 85 percent of Base Condition) <sup>3</sup> |                                       |
| Single-Family Units         | du                 | 86.4                         | 76.5                  | 73.4  | 4.1%                                  |
| Multi-Family Units          | du                 | 58.5                         | 55.5                  | 49.7  | 10.5%                                 |
| Age-Restricted Units        | du                 | 37.6                         | 35.0                  | 32.0  | 8.6%                                  |
| Office                      | ksf                | 90.8                         | 83.4                  | 77.2  | 7.4%                                  |
| Highway Commercial          | ksf                | 158.2                        | 158.1                 | 134.5   | 14.9%                                 |
| General Retail <sup>4</sup> | ksf                | 121.5                        | 125.1                 | 103.3   | 17.4%                                 |
| Industrial                  | ksf                | 34.6                         | 28.3                  | 29.4  | -                                     |
| Warehouse                   | ksf                | 17.9                         | 15.7                  | 15.2  | 3.2%                                  |

**Notes:**

<sup>1</sup> Land uses shown are the primary "trip generating uses" within the City.

<sup>2</sup> du = dwelling units. ksf = Thousand square feet of floor space.

<sup>3</sup> Refer to Table 3.1-3.

<sup>4</sup> General retail covers more specific retail uses such as supermarkets, restaurants and hotels.

**Sources:**

**a** City of Vacaville Cumulative Year Travel Demand Model

CEQA Guidelines Section 15183 (Projects Consistent with a Community Plan, General Plan, or Zoning) specifies that projects that are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. In this instance, the impacts of all land use projects contemplated in the City's General Plan have been analyzed to determine their effect on VMT, which is the preferred metric for analyzing the transportation system per CEQA Guidelines 15064.3.

Future projects consistent with the General Plan will not require further VMT analysis pursuant to CEQA. However, those projects would be subject to Mitigation Measure TRA-1 (in Section 3.1-6) unless it can be demonstrated that the project's specific land use type and location is in a "VMT efficient" location. To perform such evaluations, the City has prepared a report entitled *Interim SB 743 Implementation Guidelines for City of Vacaville* (January 2021). These streamlining provisions do not alleviate the need for evaluation of project impacts to related to other components of the transportation system, such as pedestrian/bicycle facilities, transit facilities and services, hazards, emergency access, construction, etc. Proposed projects that are not consistent with the General Plan require VMT impact analysis in a manner prescribed by the *SB 743 Implementation Guidelines for City of Vacaville*. Overall, the effect of development under the General Plan on VMT would be **significant**.

**Impact TRA-2 Implementation of the City's General Plan would result in additional roadway capacity that would lead to induced travel and increased VMT. This impact is considered significant.**

Table 3.1-7 lists 13 specific roadway capacity projects within the Vacaville City Limits and their short-term effects on VMT. While some projects cause a net increase in VMT, most cause a decrease in VMT. The induced travel effects of these projects were also evaluated. This metric relates to longer term effects, such as land use changes and mode choice shifts that may occur for a number of years. As shown in Table 3.1-8, buildout of the General Plan would cause an induced VMT of approximately 130,000 miles of travel per day. Mitigation measures are available to incorporate into roadway facility designs, however their exact effect on reducing VMT is difficult to quantify. Therefore, the VMT impacts of transportation projects on VMT would be considered **significant**.

**Impact TRA-3 The project would not conflict with a program, plan, ordinance or policy addressing transit, bicycle or pedestrian facilities.**

The General Plan EIR found that the General Plan includes policies that provide for an integrated network of bicycle and pedestrian facilities, as well as for the needs of transit users. The Plan calls for the construction and enhancement of a bike route network to encourage non-motorized transport between neighborhoods and between neighborhoods, in addition to key destinations for commute, recreational, and other purposes. The Plan also requires the City to develop a series of continuous pedestrian walkways within the Downtown and residential neighborhoods and to design separated pedestrian paths and trails to be convenient, visible, and safe. The Plan encourages improvements in the transit network by supporting expansion of both local services, when financially feasible and the intercity system, while working to enhance rideshare parking opportunities. New developments are required to include transit amenities unless justification for non-provision is provided, bike paths or bike lanes when appropriate, and adequate public and private bicycle parking and storage facilities. The roadway network in new developments must also be designed to accommodate transit vehicles and facilitate transit routes and on-street bicycle lanes where feasible and as a grid pattern to improve access and circulation for all modes. Implementation of the City's General Plan would therefore support and would not conflict with plans, programs and policies regarding bicycle or pedestrian facilities, or decrease the performance and safety of such facilities.

The General Plan EIR notes that the General Plan would allow for development to occur in areas not currently served by public transit at equal service levels to the rest of the Local Tax Base Area. This would be in conflict with the accessibility and geographic coverage goals of the Vacaville City Coach Short Range Transit Plan. Implementation of the policies and implementing actions in the proposed amendments to the Transportation Element of the General Plan, in particular Policies TR-P8.3 and TR-P8.4 and Action TR-A8.3, would establish policies and procedures to evaluate transit demand generated by new development and means to provide for transit demand beyond what can be expected from other established funding sources. Impacts related to potential conflicts with a program, plan, ordinance or policy addressing transit, bicycle or pedestrian facilities would be **less than significant**.



**Impact TRA-4    The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).**

This issue was not evaluated in the General Plan EIR. The General Plan contains policies on the safe design of the roadway system that would discourage the creation of geometric hazards when applied to future roadway improvements. In addition, the General Plan itself is designed to minimize conflicts of incompatible uses by providing for the orderly development of the City. This impact would be **less than significant**.

**Impact TRA-5    The project would not result in inadequate emergency access.**

The General Plan EIR found that the General Plan contains policies and implementing actions that ensure efficient circulation and adequate access are provided in the City, which would help facilitate emergency response. Furthermore, Action TR-A5.2 of the General Plan requires the City to improve emergency vehicle response times. Implementation of the General Plan policies would ensure that adequate emergency access is provided in Vacaville and is considered in the review of individual development projects subject to the General Plan. However, despite these policies, the General Plan EIR found that failure to meet LOS standards on certain roadways would result in a significant and unavoidable impact. There is no substantial evidence in the General Plan EIR that inadequate emergency access would be a significant issue in the planning area absent the application of LOS policies that are no longer used to evaluate the effectiveness of the circulation system. Therefore this impact would be **less than significant**.

### 3.1.5            Cumulative Impacts

Because of the nature of the propose amendments to the Transportation Element of the City's General Plan, cumulative impacts are incorporated into the analysis of Impacts TRA-1 and TRA-2. As discussed above, the cumulative VMT impacts of the proposed project would **be significant**.

### 3.1.6            Mitigation Measures

**MM-TRA-1        The General Plan Transportation Element and/or the Transportation Demand Management chapter of the Vacaville Municipal Code should be amended as follows:**

#### **Implementation Measures**

Proposed development projects that could have a potentially significant VMT impact shall consider reasonable and feasible project modifications and other measures during the project design and environmental review stage of project development that would reduce VMT effects in a manner consistent with state guidance on VMT decrease. The below list of potential measures is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options for future development proposals, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures include:

- improving access to transit;
- increasing access to common goods and services, such as groceries, schools, and daycare;
- incorporating affordable housing, including low-income housing, into residential and mixed-use development;
- orienting the project toward transit, bicycle and pedestrian facilities;
- improving pedestrian or bicycle networks, or transit service;

- implementing traffic calming;
- providing bicycle parking;
- unbundling parking costs;
- implement employer parking cash-out programs;
- implementing a commuter reduction program;
- providing car-sharing, bike sharing, and ride-sharing programs;
- providing transit subsidies or passes;
- providing ride-matching services;
- providing telework options;
- providing incentives or subsidies that increase the use of modes other than single-occupant vehicle;
- providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
- providing employee transportation coordinators at employment sites;
- providing a guaranteed ride home service to users of non-auto modes;
- increasing project density;
- increasing the mix of uses within the project or within the project's surroundings;
- increasing connectivity and/or intersection density on the project site; and/or

### Significance after Mitigation

Although implementing Mitigation Measure TRA-1 would achieve meaningful reductions in VMT generated by land uses within the City, the City at this time cannot guarantee that VMT will be reduced to the degree that it meets state goals related to VMT reduction. Some projects have development agreements, and the City cannot unilaterally change land use and transportation frameworks of them to focus on reducing vehicular travel demand. The magnitude of VMT reduction also depends on factors, such as demographics, household preferences for housing types and locations, the cost of fuel, and the competitiveness of transit relative to driving. Therefore, this impact is considered **significant and unavoidable**.

**MM-TRA-2      Roadway projects in Vacaville that would increase VMT should include strategies that offset the increase to the extent feasible.**

### Implementation Measures

Proposed roadway projects that could have a potentially significant VMT impact shall consider reasonable and feasible project modifications and other measures during the project design and environmental review stage to reduce VMT effects in a manner consistent with state guidance on VMT decrease. The below list of potential measures is not intended to be exhaustive, and not all measures may be feasible, reasonable, or applicable to all projects. The purpose of this list is to identify options, not to constrain projects to this list, or to require that a project examine or include all measures from this list. Potential measures include:

- 1 Amending the City's street design requirements to incorporate:
  - implementing complete streets, whereby comfortable and convenient bicycle, pedestrian, and transit facilities are provided in conjunction with the roadway improvement

- 2 Expanding the transit system to include:
  - greater geographic coverage, duration, and frequency of service
  - Implementing or funding off-site travel demand management (is this transit system?)
  - Implementing Intelligent Transportation Systems (ITS) strategies to improve passenger throughput on existing lanes

### Significance after Mitigation

Although implementing Mitigation Measure TRA-2 could reduce VMT depending on the type of roadway project and strategies selected, the City at this time cannot guarantee that VMT will be reduced to the degree that no net increase in VMT occurs. Therefore, this impact is considered **significant and unavoidable**.

### 3.1.7 References

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Fehr & Peers. SB 743 Implementation Guidelines for City of Vacaville. 2021.

Handy, S., & Boarnet, M. G. 2014. Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions: Policy Brief. Prepared for the California Air Resources Board. Available at: [https://ww3.arb.ca.gov/cc/sb375/policies/hwycapacity/highway\\_capacity\\_brief.pdf](https://ww3.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf).

## 3.2 Greenhouse Gas Emissions

This section describes the existing conditions related to greenhouse gas (GHG) emissions, identifies associated regulatory requirements, and evaluates potential impacts related to GHG emissions associated with implementation of the proposed Transportation Element and ECAS Update Project (project).

### 3.2.1 Existing Conditions

#### 3.2.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the Sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: short-wave radiation emitted by the Sun is absorbed by the Earth, the Earth emits a portion of this energy in the form of long-wave radiation, and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and is the most significant driver of observed climate change (IPCC 2013; EPA 2017a). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

#### 3.2.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. As defined in California Health and Safety Code Section 38505(g), for purposes of administering many of the state's primary GHG emissions reduction programs, GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen

trifluoride (NF<sub>3</sub>) (see also 14 CCR 15364.5).<sup>1</sup> Some GHGs, such as CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, are emitted into the atmosphere through natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as HFCs, PFCs, and SF<sub>6</sub>, which are associated with certain industrial products and processes. The following paragraphs provide a summary of the most common GHGs and their sources.<sup>2</sup>

**Carbon Dioxide.** CO<sub>2</sub> is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO<sub>2</sub> include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO<sub>2</sub> are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

**Methane.** CH<sub>4</sub> is produced through both natural and human activities. CH<sub>4</sub> is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

**Nitrous Oxide.** N<sub>2</sub>O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N<sub>2</sub>O. Sources of N<sub>2</sub>O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N<sub>2</sub>O as a propellant (such as in rockets, racecars, and aerosol sprays).

**Fluorinated Gases.** Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for stratospheric ozone-depleting substances (e.g., CFCs, hydrochlorofluorocarbons [HCFCs], and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons:** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons:** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride:** SF<sub>6</sub> is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF<sub>6</sub> is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.

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<sup>1</sup> Climate forcing substances include GHGs and other substances such as black carbon and aerosols. This discussion focuses on the seven GHGs identified in the California Health and Safety Code Section 38505, because impacts associated with other climate forcing substances are not evaluated herein.

<sup>2</sup> The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change's Second Assessment Report and Fourth Assessment Report (IPCC 1995, 2007), the California Air Resources Board's Glossary of Terms Used in GHG Inventories (CARB 2018), and the U.S. Environmental Protection Agency's Glossary of Climate Change Terms (EPA 2016).

- **Nitrogen Trifluoride:**  $\text{NF}_3$  is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

**Chlorofluorocarbons.** CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric  $\text{O}_3$ .

**Hydrochlorofluorocarbons.** HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

**Black Carbon.** Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB's) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

**Water Vapor.** The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

**Ozone.** Tropospheric  $\text{O}_3$ , which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric  $\text{O}_3$ , which is created by the interaction between solar ultraviolet radiation and molecular oxygen ( $\text{O}_2$ ), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric  $\text{O}_3$ , due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

**Aerosols.** Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

### 3.2.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2020). The Intergovernmental Panel on Climate Change (IPCC) developed the global warming potential (GWP) concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a

GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO<sub>2</sub>; therefore, GWP-weighted emissions are measured in metric tons of CO<sub>2</sub> equivalent (MT CO<sub>2</sub>e).

The ECAS Update applies the IPCC's Fifth Assessment Report GWPs, which assumes that the GWP for CH<sub>4</sub> is 28 (so emissions of 1 MT of CH<sub>4</sub> are equivalent to emissions of 28 MT of CO<sub>2</sub>), and the GWP for N<sub>2</sub>O is 265 (IPCC 2014).

### 3.2.1.4 Sources of Greenhouse Gas Emissions

Per the U.S. Environmental Protection Agency (EPA) Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2018 (EPA 2020), total United States GHG emissions were approximately 6,676.6 million metric tons (MMT) CO<sub>2</sub>e in 2018 (EPA 2020). The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, which represented approximately 81.3% of total GHG emissions (5,428.1 MMT CO<sub>2</sub>e). The largest source of CO<sub>2</sub>, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO<sub>2</sub> emissions in 2018 (5,031.8 MMT CO<sub>2</sub>e). Relative to 1990, gross United States GHG emissions in 2018 are higher by 3.7%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2017 to 2018 by 2.9% (188.4 MMT CO<sub>2</sub>e) and overall, net emissions in 2018 were 10.2% below 2005 levels (EPA 2020).

According to California's 2000–2018 GHG emissions inventory (2020 edition), California emitted 425 MMT CO<sub>2</sub>e in 2018, including emissions resulting from out-of-state electrical generation (CARB 2020a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2018 are presented in Table 3.2-1.

**Table 3.2-1. Greenhouse Gas Emissions Sources in California**

| Source Category                          | Annual GHG Emissions (MMT CO <sub>2</sub> e) | Percent of Total <sup>a</sup> |
|--|--|-------------------------------|
| Transportation                           | 169.50                                       | 40%                           |
| Industrial                               | 89.18  | 21%                           |
| Electric power <sup>b</sup>              | 63.11  | 15%                           |
| Commercial and residential               | 41.37  | 10%                           |
| Agriculture                              | 32.57  | 8%                            |
| High global-warming potential substances | 20.46  | 5%                            |
| Recycling and waste                      | 9.09   | 2%                            |
| <b>Total</b>                             | <b>425.28</b>                                | <b>100%</b>                   |

**Source:** CARB 2020a.

**Notes:** GHG = greenhouse gas; MMT CO<sub>2</sub>e = million metric tons of carbon dioxide equivalent per year.

Emissions reflect the 2018 California GHG inventory.

<sup>a</sup> Percentage of total has been rounded, and total may not sum due to rounding.

<sup>b</sup> Includes emissions associated with imported electricity, which account for 24.57 MMT CO<sub>2</sub>e annually.

Between 2000 and 2018, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.7 MT per person in 2018, representing a 24% decrease (CARB 2020b). In 2016, statewide GHG emissions dropped below the 2020 GHG Limit of 431 MMT CO<sub>2</sub>e and have remained below the Limit since that time (CARB 2020b).

### 3.2.1.5 City of Vacaville GHG Inventory

A baseline GHG inventory was developed for the City for the year 2019 as part of the ECAS Update. The baseline GHG inventory represents a snapshot of the communitywide GHG emissions generated in Vacaville in 2019. Municipal GHG emissions are included in the communitywide GHG emissions, although they represent a small portion of Vacaville's total inventory. The following text summarizes existing communitywide GHG emissions through development of the 2019 baseline inventory resulting from the following GHG emissions-generating source categories: transportation, residential energy use (electricity and natural gas), non-residential energy use (electricity and natural gas), water treatment, delivery, and wastewater, solid waste disposal, and off-road emissions (e.g., construction equipment and lawnmowers).

#### Transportation

Transportation sources of GHG emissions are a result of fuel combustion from the burning of fossil fuels, including gasoline and diesel, and from on-road mobile sources (e.g. passenger vehicles and trucks). Transportation emissions are based on trips generated by land uses within Vacaville. Transportation emissions include:

- 100% of trips that both begin and end within Vacaville.
- 50% of the trip length for trips from Vacaville to somewhere else (internal-external trips) and trips from somewhere else to Vacaville (external-internal trips).
- No pass-through trips that either begin or end in Vacaville, such as cars driving from San Francisco to Sacramento on Interstate 80.

The associated baseline vehicle miles traveled (VMT) generated by land uses within Vacaville was compiled through interpolation of baseline year 2008 VMT and Fehr & Peers projected 2035 VMT. GHG emissions from those VMT was estimated using CARB's Mobile Source Emissions Inventory Model, EMFAC (EMFAC2017) program and are estimated to be 609,843 MT CO<sub>2e</sub> as shown in Table 3.2.2.

#### Residential Energy

Residential land uses generate GHG emissions primarily from purchased electricity and natural gas used for heating and cooking. Pacific Gas and Electric Company (PG&E) provided residential purchased energy use and natural gas use for 2019. GHG emissions from residential energy are estimated to be 93,272 MT CO<sub>2e</sub> as shown in Table 3.2.2.

#### Non-Residential Energy

The non-residential category includes GHG emissions associated with commercial, office, and industrial land uses. Non-residential land uses generate GHG emissions primarily from purchased electricity and natural gas used for heating and cooking (e.g. restaurants). PG&E provided data on non-residential purchased electricity use for 2019. PG&E natural gas data provided for year 2010 was scaled to year 2019 based on county level natural gas consumption in years 2010 and 2019 provided by the California Energy Commission. GHG emissions from non-residential energy are estimated to be 96,316 MT CO<sub>2e</sub> as shown in Table 3.2.2.

#### Water and Wastewater

Water demand and wastewater generation in Vacaville result in indirect GHG emissions from the energy required to convey, treat, and distribute potable water, and from emissions of CH<sub>4</sub> and N<sub>2</sub>O from wastewater treatment that are



not captured within the wastewater treatment system. Wastewater treatment processes produce “fugitive” GHG emissions. Under anaerobic conditions, microorganisms biodegrade soluble organic material in wastewater during both nitrification and denitrification and generate emissions of N<sub>2</sub>O. Water and wastewater emissions were estimated based on the City’s clean water supply and wastewater treatment annual throughputs, associated processes, and energy requirements. Clean water supply includes water supply and conveyance, water treatment and water distribution, and each process requires electricity. Wastewater for the City is treated at the City’s Easterly Wastewater Treatment Plant. Wastewater treatment electricity consumption was based on actual electricity metered for the Wastewater Treatment Plant from December 2018 to December 2019. Wastewater fugitive GHG emissions were estimated to occur with aerobic and anaerobic processes and were estimated based on the wastewater nitrogen load conversion to N<sub>2</sub>O, where N<sub>2</sub>O was converted to CO<sub>2</sub>e based on the IPCC Global Warming Potential for N<sub>2</sub>O. GHG emissions from water and wastewater are estimated to be 3,355 MT CO<sub>2</sub>e as shown in Table 3.2.2.

### Solid Waste

Treatment and disposal of solid waste produces a significant amount of CH<sub>4</sub>. Most operating landfills in California also implement a landfill gas recovery system as a common way to reduce methane emissions from solid waste disposal. Although solid waste disposal sites produce biogenic carbon dioxide, biogenic sources of GHG emissions are not included as part of a communitywide GHG inventory. Local Governments for Sustainability’s Clearpath waste calculator was used to calculate 2019 annual GHG emissions from solid waste. GHG emissions from solid waste are estimated to be 28,335 MT CO<sub>2</sub>e as shown in Table 3.2.2.

### Off-Road Equipment

Off-road equipment GHG emissions sources include the combustion of fossil fuels for off-road stationary equipment, such as landscaping and construction equipment. This category represents GHG emissions from off-road equipment exhaust from the following types of equipment used within Vacaville: landscaping equipment, including blowers, mowers, and other landscaping tools; light commercial and industrial equipment, including generators, pressure washers, welders, and pumps; and off-road construction equipment such as bulldozers, cranes, backhoes, and water trucks. GHG emissions from off-road equipment was based on the 2015 ECAS 2008 baseline inventory, which was based on the Solano Transportation Authority 2011 GHG inventory for the seven cities within the county, including Vacaville, and scaled by service population to estimate year 2019 GHG emissions. GHG emissions from off-road equipment are estimated to be 13,077 MT CO<sub>2</sub>e as shown in Table 3.2.2.

### Summary

Vacaville’s communitywide GHG emissions in 2019 were estimated to be 840,888 MT CO<sub>2</sub>e. The 2019 baseline inventory in both MT CO<sub>2</sub>e and percentage of overall CO<sub>2</sub>e for each inventory category are shown in Table 3.2.2.

**Table 3.2.2. 2019 Baseline GHG Emissions Inventory**

| Category               | MT CO <sub>2</sub> e | Percent |
|------------------------|----------------------|---------|
| Transportation         | 609,843              | 72%     |
| Residential Energy     | 93,272               | 11%     |
| Non-Residential Energy | 96,316               | 11%     |
| Water/Wastewater       | 3,355                | 0.4%    |
| Solid Waste Disposal   | 28,335               | 3%      |

Table 3.2.2. 2019 Baseline GHG Emissions Inventory

| Category           | MT CO <sub>2</sub> e | Percent     |
|--------------------|----------------------|-------------|
| Off-Road Equipment | 13,077               | 2%          |
| <b>Total</b>       | <b>844,198</b>       | <b>100%</b> |

**Notes:** GHG = greenhouse gas; MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent.  
Totals may not sum due to rounding.

### 3.2.1.6 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Fifth Assessment Report Synthesis Report (IPCC 2014) indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, rising sea levels, and ocean acidification (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, frequency of severe weather events, and electricity demand and supply. The primary effect of global climate change has been a rise in average global tropospheric temperature. Reflecting the long-term warming trend since pre-industrial times, observed global mean surface temperature for the decade 2006–2015 was 0.87 °C (likely between 0.75 °C and 0.99 °C) higher than the average over the 1850–1900 period (IPCC 2018). Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. Human activities are estimated to have caused approximately 1.0 °C (1.8 °F) of global warming above pre-industrial levels, with a likely range of 0.8 °C to 1.2 °C (1.4 °F to 2.2 °F) (IPCC 2018). Global warming is likely to reach 1.5 °C (2.7 °F) between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018).

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The Office of Environmental Health Hazard Assessment identified various indicators of climate change in California, which are scientifically based measurements that track trends in various aspects of climate change. Many indicators reveal discernible evidence that climate change is occurring in California and is having significant, measurable impacts in the state. Changes in the state's climate have been observed including an increase in annual average air temperature with record warmth from 2012 to 2016, more frequent extreme heat events, more extreme drought, a decline in winter chill, an increase in cooling degree days and a decrease in heating degree days, and an increase in variability of statewide precipitation (OEHHA 2018).

Warming temperatures and changing precipitation patterns have altered California's physical systems—the ocean, lakes, rivers and snowpack—upon which the state depends. Winter snowpack and spring snowmelt runoff from the Sierra Nevada and southern Cascade Mountains provide approximately one-third of the state's annual water supply. Impacts of climate on physical systems have been observed such as high variability of snow-water content (i.e., amount of water stored in snowpack), decrease in spring snowmelt runoff, glacier change (loss in area), rise in sea levels, increase in average lake water temperature and coastal ocean temperature, and a decrease in dissolved oxygen in coastal waters (OEHHA 2018).

Impacts of climate change on biological systems, including humans, wildlife, and vegetation, have also been observed including climate change impacts on terrestrial, marine, and freshwater ecosystems. As with global observations, species responses include those consistent with warming: elevational or latitudinal shifts in range, changes in the timing of key plant and animal life cycle events, and changes in the abundance of species and in community composition. Humans are better able to adapt to a changing climate than plants and animals in natural ecosystems. Nevertheless, climate change poses a threat to public health as warming temperatures and changes in precipitation can affect vector-borne pathogen transmission and disease patterns in California as well as the variability of heat-related deaths and illnesses. In addition, since 1950, the area burned by wildfires each year has been increasing.

The California Natural Resources Agency (CNRA) has released four California Climate Change Assessments (2006, 2009, 2012, and 2018), which have addressed the following: acceleration of warming across the state, more intense and frequent heat waves, greater riverine flows, accelerating sea level rise, more intense and frequent drought, more severe and frequent wildfires, more severe storms and extreme weather events, shrinking snowpack and less overall precipitation, and ocean acidification, hypoxia, and warming. To address local and regional governments' need for information to support action in their communities, the Fourth Assessment (CNRA 2018) includes reports for nine regions of the state, including the Sacramento Valley Region, which includes the City of Vacaville. General climate changes for the Sacramento Valley Region include the following (CNRA 2018):

- Warming air and water temperatures
- More extreme heat-waves
- Drier landscapes
- Less snow
- Variable precipitation and seasonal shifts
- More intense droughts and floods with less predictability
- Higher Delta water levels compounded by subsidence
- Increased risk of wildfire
- Loss of ecosystem habitat

For the purposes of climate change assessment, while the City of Vacaville is located within the Sacramento Valley Region, the City was on the border with the San Francisco Bay Area Region, as defined by the CNRA. Accordingly, a summary of the key findings for the San Francisco Bay Area Region is provided below for additional context (CNRA 2018):

- The impacts of climate change are already being felt in the San Francisco Bay Area and Northern California.
- These changes are projected to increase significantly in the coming decades over the region.
- Changes in temperature, precipitation, and sea level rise will produce substantial impacts on Bay Area social systems and the built environment.
- Climate change will produce substantial impacts on Bay Area natural and managed resource systems.
- A growing number of Bay Area local governments, regional agencies, nonprofits, and private sector stakeholders are taking actions that advance climate adaptation and resilience.

## 3.2.2 Regulatory Setting

### 3.2.2.1 International

#### ***United Nations Framework Convention on Climate Change, Kyoto Protocol, and Paris Agreement***

In 1992, numerous countries joined an international treaty—the United Nations Framework Convention on Climate Change (UNFCCC)—as a framework for international cooperation to combat climate change by limiting average global temperature increases and the resulting climate change, and coping with associated impacts. Currently, there are 197 Parties (196 States and 1 regional economic integration organization) in the UNFCCC (UNFCCC 2019).

By 1995, countries launched negotiations to strengthen the global response to climate change, and, 2 years later, adopted the Kyoto Protocol, which was the first international agreement to regulate GHG emissions. The Kyoto Protocol legally binds developed country Parties to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on January 1, 2013, and will end in 2020. More than 160 countries signed the Kyoto Protocol (UNFCCC 2019). In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended the United States' involvement in the Kyoto Protocol.

The 2015 Paris Agreement, adopted in Paris on December 12, 2015, marks the latest step in the evolution of the United Nations' climate change regime and builds on the work undertaken under the UNFCCC. The Paris Agreement charts a new course in the global effort to combat climate change. The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5°C (UNFCCC 2019). The Paris Agreement also aims to strengthen the ability of countries to deal with the impacts of climate change. The Paris Agreement requires all Parties to put forward their best efforts through nationally determined contributions and to strengthen these efforts in the years ahead.

The Paris Agreement entered into force on November 4, 2016, thirty days after the date on which at least 55 Parties to the Convention accounting in total for at least an estimated 55 % of the total global GHG emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary (UNFCCC 2019). On June 2, 2017 President Donald Trump announced his intention to withdraw from the Paris Agreement, which was formally recognized on November 4, 2019. President Joe Biden re-joined the Paris Agreement on January 21, 2021, which was accepted by the United Nations; the United States will be formally re-entered into the Paris Agreement on February 29, 2021.

### 3.2.2.2 Federal

#### ***Massachusetts v. EPA***

In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In

December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The administrator found that elevated concentrations of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub>—in the atmosphere threaten the public health and welfare of current and future generations. This is the “endangerment finding.”
- The administrator further found the combined emissions of GHGs—CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the “cause or contribute finding.”

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

### ***Energy Independence and Security Act of 2007***

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, and directs National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy-efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

### ***Federal Vehicle Standards***

In response to the U.S. Supreme Court ruling previously discussed, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO<sub>2</sub> in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current GHG emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO<sub>2</sub> emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO<sub>2</sub> emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

In August 2018, EPA and NHTSA proposed to amend certain fuel economy and GHG standards for passenger cars and light trucks and establish new standards for model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA and NHTSA 2018). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives.

On September 27, 2019, the EPA and NHTSA published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program (84 FR 51310), which became effective November 26, 2019. The Part One Rule revokes California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. On March 31, 2020, the EPA and NHTSA issued the Part Two Rule, which will go into effect 60 days after being published in the Federal Register. The Part Two Rule sets CO<sub>2</sub> emissions standards and corporate average fuel economy standards for passenger vehicles and light-duty trucks for model years 2021 through 2026. On January 20, 2021, President Joe Biden issued an Executive Order (EO) on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, which includes review of Part One Rule by April 2021 and review of the Part Two Rule by July 2021 (The White House 2021).

### ***Clean Power Plan and New Source Performance Standards for Electric Generating Units***

On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO<sub>2</sub> emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO<sub>2</sub> emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

### 3.2.2.3 State

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes EOs, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

#### ***State Climate Change Targets***

The state has taken a number of actions to address climate change. These include EOs, legislation, and CARB plans and requirements. These are summarized below.

**EO S-3-05.** EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

**Assembly Bill (AB) 32.** In furtherance of the goals established in EO S-3-05, the legislature enacted AB 32. The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

**CARB's 2007 Statewide Limit.** In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO<sub>2</sub>e).

**CARB's Climate Change Scoping Plan.** One specific requirement of AB 32 is for CARB to prepare a scoping plan for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561[a]), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS) (17 CCR, Section 95480 et seq.).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions (CARB 2014). The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies. As part of the First Update, CARB recalculated the state's 1990 emissions level, using more recent GWPs identified by the IPCC, from 427 MMT CO<sub>2</sub>e to 431 MMT CO<sub>2</sub>e (CARB 2014).

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. The governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the legislature affirmed the importance of addressing climate change through passage of SB 32 (Chapter 249, Statutes of 2016).

In December 2017, CARB adopted the 2017 Climate Change Scoping Plan Update (2030 Scoping Plan) (CARB 2017). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' known commitments include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the LCFS, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the cap-and-trade program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2030 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a communitywide goal of no more than 6 MT CO<sub>2</sub>e per capita by 2030 and no more than 2 MT CO<sub>2</sub>e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 MOU (Under 2 2016) and the Paris Agreement, which are developed around the scientifically based levels necessary to limit global warming below 2°C. The 2030 Scoping Plan recognized the benefits of local government GHG planning (e.g., through climate action plans (CAPs)) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the EOs and establishes an overall framework for the measures that will be adopted to reduce California's GHG



emissions. A project is considered consistent with the statutes and EOs if it meets the general policies in reducing GHG emissions to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent if it will further the objectives and not obstruct their attainment.

**CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions.** CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, CFR, Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009; July 12, 2010; September 22, 2010; October 28, 2010; November 30, 2010; December 17, 2010; and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO<sub>2</sub>e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO<sub>2</sub>e per-year threshold are required to have their GHG emission report verified by a CARB-accredited third party.

**EO B-18-12.** EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

**SB 605 and SB 1383.** SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for CH<sub>4</sub> and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy in March 2017. The Short-Lived Climate Pollutant Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, CH<sub>4</sub>, and fluorinated gases.

**EO B-30-15.** EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO<sub>2</sub>e. The EO also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

**Senate Bill (SB) 32 and AB 197.** SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the CARB Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

**EO B-55-18.** EO B-55-18 (September 2018) establishes a new statewide goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” This EO directs CARB to “work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.”

### ***Building Energy***

**Title 24, Part 6.** Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California’s building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of “reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy” (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d]) and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [b][3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The 2019 Title 24 standards are the currently applicable building energy efficiency standards, and became effective on January 1, 2020. The 2019 Title 24 Building Energy Efficiency Standards will further reduce energy used and associated GHG emissions compared to prior standards. In general, single-family residences built to the 2019 standards are anticipated to use approximately 7% less energy due to energy efficiency measures than those built to the 2016 standards; once rooftop solar electricity generation is factored in, single-family residences built under the 2019 standards will use approximately 53% less energy than those under the 2016 standards (CEC 2018). Nonresidential buildings built to the 2019 standards are anticipated to use an estimated 30% less energy than those built to the 2016 standards (CEC 2018).

**Title 24, Part 11.** In addition to the CEC’s efforts, in 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California’s Green Building Standards (CALGreen), and establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The 2019 CALGreen standards are the current applicable standards. For nonresidential projects, some of the key mandatory CALGreen 2019 standards involve requirements related to bicycle parking, designated parking for clean air vehicles, electric vehicle (EV) charging stations, shade trees, water-conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR Part 11).

The CALGreen standards also include voluntary efficiency measures that are provided at two tiers and implemented at the discretion of local agencies and applicants. CALGreen’s Tier 1 standards call for a 15% improvement in energy requirements, stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective

roofs. CALGreen's more rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 80% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

**Title 20.** Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems.

**SB 1.** SB 1 (August 2006, "Go Solar California" or "Million Solar Roofs") established a \$3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption.

**AB 1470 (Solar Water Heating).** This bill established the Solar Water Heating and Efficiency Act of 2007. The bill includes findings and declarations of the legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand.

### ***Renewable Energy and Energy Procurement***

**SB 1078.** SB 1078 (September 2002) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (EO S-14-08 and EO S-21-09).

**SB 1368.** SB 1368 (September 2006) required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities.

**AB 1109.** Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption by 50% for indoor residential lighting and 25% for indoor commercial lighting.

**EO S-14-08.** EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020.

**EO S-21-09 and SB X1-2.** EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, Statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas,

municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators.

**SB 350.** SB 350 (October 2015, Clean Energy and Pollution Reduction Act) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (e.g., heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the California Public Utilities Commission, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. Regarding mobile sources, as one of its elements, SB 350 establishes a statewide policy for widespread electrification of the transportation sector, recognizing that such electrification is required for achievement of the state’s 2030 and 2050 reduction targets (see California Public Utilities Code, Section 740.12).

**SB 100.** SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

### ***Mobile Sources***

**State Vehicle Standards (AB 1493 and EO B-16-12).** AB 1493 (July 2002) was enacted in a response to the transportation sector accounting for more than half of California’s CO<sub>2</sub> emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor’s direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, California Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the “Federal Vehicle Standards” description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California’s authority to set its own GHG emissions standards and set zero-emission vehicle mandates in California. As the EPA rule is the subject of pending legal challenges and President Biden issued an EO to review Part One and Part Two, the ECAS Update utilized the best available information at this time, as set forth in EMFAC.

**Heavy Duty Diesel.** CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014, to reduce particulate matter and NO<sub>x</sub> emissions from heavy-duty diesel vehicles. The rule requires particulate matter filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and

buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

**EO S-1-07.** EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining LCFS for GHG emissions measured in CO<sub>2</sub>e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

**SB 375.** SB 375 (September 2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8 years. SB 375 requires each of the state's 18 regional metropolitan planning organizations to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP) that will achieve the GHG reduction targets set by CARB. If a metropolitan planning organization is unable to devise an SCS to achieve the GHG reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

Pursuant to Government Code, Section 65080(b)(2)(K), a SCS does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

On September 23, 2010, CARB adopted the first set of SB 375 GHG reduction targets for the regional Metropolitan Planning Organizations (MPOs) and established updated regional targets on March 22, 2018. CARB set an initial target of 7% per capita GHG reduction by 2020 and a 15% per capita GHG reduction by 2035 for the Metropolitan Transportation Commission (MTC)/Association of Bay Area Governments (ABAG) MPO through September 30, 2018. Updated targets beginning October 1, 2018 include 10% per capita GHG reduction by 2020 and a 19% per capita GHG reduction by 2035 for MTC/ABAG. The MTC, which is the MPO for the Bay Area, as well as the ABAG, adopted the Plan Bay Area 2040 in July 2017 (MTC and ABAG 2017), which is the RTP/SCS for the Bay Area. The Plan Bay Area 2040 is a long-range plan for transportation projects within the planning area and established 13 performance targets to achieve the following goals/outcomes: Climate Protection, Adequate Housing, Healthy and Safe Communities, Open Space and Agricultural Preservation, Equitable Access, Economic Vitality, and Transportation System Effectiveness. Two of these targets are mandatory to comply with SB 375, and the Plan Bay Area 2040 exceeds the 15% reduction per capita in GHG emissions from light-trucks and cars by 2035 (Climate Protection Goal), and plans to house 100% of the region's projected growth (from a 2010 baseline year) by income level without displacing current low-income residents and with no increase in in-commuters (Adequate Housing Goal).

**Advanced Clean Cars Program and Zero-Emissions Vehicle Program.** The Advanced Clean Cars Program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-

forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025, cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The Zero-Emissions Vehicle Program will act as the focused technology of the Advanced Clean Cars Program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

**AB 1236.** AB 1236 (October 2015) required a city, county, or city and county to approve an application for the installation of EV charging stations, as defined, through the issuance of specified permits, unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern. The bill required EV charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for EV charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

### ***Solid Waste***

**AB 939, AB 341, and AB 1826.** In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations, and an evaluation of program effectiveness (CalRecycle 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

### **Water**

**EO B-29-15.** In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

**EO B-37-16.** Issued May 2016, EO B-37-16 directed the State Water Resources Control Board (SWRCB) to adjust emergency water conservation regulations through the end of January 2017 to reflect differing water supply conditions across the state. The SWRCB also developed a proposal to achieve a mandatory reduction of potable urban water usage that builds off the mandatory 25% reduction called for in EO B-29-15. The SWRCB and Department of Water Resources will develop new, permanent water use targets that build upon the existing state law requirements that the state achieve 20% reduction in urban water usage by 2020. EO B-37-16 also specifies that the SWRCB permanently prohibit water-wasting practices such as hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; using non-recirculated water in a fountain or other decorative water feature; watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and irrigating ornamental turf on public street medians.

### **Other State Actions**

**Senate Bill 97.** SB 97 (August 2007) directed the Governor’s Office of Planning and Research to develop guidelines under the California Environmental Quality Act (CEQA) for the mitigation of GHG emissions. In 2008, the Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project’s GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, but instead allow a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project’s GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a “model or

methodology” to quantify the emissions or by relying on “qualitative analysis or other performance-based standards” (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

**EO S-13-08.** EO S-13-08 (November 2008) is intended to hasten California’s response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009b), and an update, *Safeguarding California: Reducing Climate Risk*, followed in July 2014 (CNRA 2014). To assess the state’s vulnerability, the report summarizes key climate change impacts to the state for the following areas: agriculture, biodiversity and habitat, emergency management, energy, forestry, ocean and coastal ecosystems and resources, public health, transportation, and water. Issuance of the *Safeguarding California: Implementation Action Plans* followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the *Safeguarding California Plan: 2018 Update*, which communicates current and needed actions that state government should take to build climate change resiliency.

### 3.2.2.4 Regional and Local

Beyond the State’s legislative framework to reduce GHG emissions, the region has established regulations and policies to protect public health and contribute to GHG emission reductions. Vacaville primarily falls within the Yolo-Solano Air Quality Management District (YSAQMD) and a portion of the southeast corner of Vacaville is within the Bay Area Air Quality Management District (BAAQMD). For environmental analysis, the City looks to the YSAQMD guidance.

#### **Yolo-Solano Air Quality Management District**

The YSAQMD is the regional agency responsible for protecting human health and property from the harmful effects of air pollution for all of Yolo County and northeastern Solano County. The YSAQMD is responsible for achieving and maintaining healthful air quality for its residents by establishing programs, plans, and regulations enforcing air pollution control rules in order to attain all State and Federal ambient air quality standards and to minimize public exposure to airborne toxins and nuisance odors. The YSAQMD has not adopted a GHG reduction plan or published guidance for local agencies to address GHG emissions. However, the YSAQMD has adopted and implemented air quality plans and actions that have co-benefits related to reducing GHG emissions. In the past, the YSAQMD has unofficially recommended referring to the neighboring BAAQMD or the Sacramento Metropolitan Air Quality Management District guidance, specifically as it relates to environmental analysis under CEQA.

#### **Bay Area Air Quality Management District**

The BAAQMD is the regional agency responsible for the regulation and enforcement of federal, state, and local air pollution control regulations in the San Francisco Bay Area Air Basin. The BAAQMD has adopted the *Spare the Air: Cool The Climate Final 2017 Clean Air Plan*, which provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve the 2030 and 2050 GHG reduction targets (BAAQMD 2017). To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.



The BAAQMD has also published guidance on the criteria for a “qualified” GHG emissions reduction strategy, which allows future developments to potentially “tier” off the plan by avoiding the need for project-specific GHG emissions analyses under CEQA. Put simply, tiering means that, for the purpose of analyzing GHG emissions impacts, projects that conform to the qualified GHG emissions reduction plan have already received CEQA analysis and may simply conclude that the project impacts are less than significant. The BAAQMD permits this tiering consistent with the State CEQA Guidelines Section 15183.5. Beyond these criteria, BAAQMD requires that qualified GHG emissions reduction strategies address certain key emissions sectors, including residential, commercial, industrial, transportation and land use, waste, agriculture (if pertinent), and water and wastewater treatment. Qualified GHG emissions reduction strategies must evaluate the specific current emissions for each of these sectors, as well as projected emissions under both a business-as-usual (BAU) scenario and under the proposed strategy. Qualified GHG emissions reduction strategies must reasonably demonstrate that the proposed strategy would lead to decreases in GHG emissions consistent with the goals and targets of State laws, such as AB 32 and SB 32. The proposed ECAS has been prepared in accordance with these guidelines from BAAQMD.

In addition to its Climate Protection Program, with measures to help meet GHG reductions, the BAAQMD also requires that all pollution sources warranting an air quality permit estimate what their GHG emissions would be and pay a fee based on the MT CO<sub>2</sub>e emissions. Consistent with SB 375, the BAAQMD, ABAG, MTC, and the Bay Area Conservation and Development Commission established One Bay Area, an initiative to coordinate regional GHG emission reduction efforts. One Bay Area’s Plan Bay Area has an SCS, which links land use and transportation to GHG emission reduction goals. Vacaville’s plans, projects, and development must be consistent with Plan Bay Area for the City to be eligible for transportation and land use grant funding.

### **Association of Bay Area Governments**

SB 375 requires MPOs to prepare an SCS in their RTP. In the Bay Area, the MTC and the ABAG are jointly responsible for developing and adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by CARB. The Plan Bay Area 2040 was adopted by MTC and ABAG on July 26, 2017, and represents a limited and focused update that builds on the growth pattern and strategies developed in the original Plan Bay Area (2013). The Plan Bay Area 2040 exceeds the 15% reduction per capita in GHG emissions from light-trucks and cars by 2035 (climate protection goal). MTC and ABAG are currently preparing the Plan Bay Area 2050, which is expected to be adopted in fall 2021 (MTC and ABAG 2021).

## 3.2.3 Thresholds of Significance

### 3.2.3.1 Significance Criteria

The significance criteria used to evaluate the project’s impacts related to GHG emissions are based on CEQA Guidelines Appendix G. According to Appendix G, a significant impact related to GHG emissions would occur if the project would:

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 GHGs.

Global climate change is a cumulative impact; a project’s potential impact is determined through evaluation of its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project, such as the proposed project, would be

considered a cumulatively considerable contribution to global climate change. In addition, while GHG impacts are recognized exclusively as cumulative impacts (CAPCOA 2008), GHG emissions impacts must also be evaluated at a project level under CEQA and mitigated to the extent feasible, if potential significant impacts are identified.

The CEQA Guidelines do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009a). The State of California has not adopted emission-based thresholds for GHG emissions under CEQA. The Governor's Office of Planning and Research's Technical Advisory, titled Discussion Draft CEQA and Climate Change Advisory (OPR 2018), states that:

[N]either the CEQA statute nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable. Even in the absence of clearly defined thresholds for GHG emissions, such emissions must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact.

Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice." Section 15064.7(c) of the CEQA Guidelines specifies that "when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

The YSAQMD has not adopted GHG emission significance criteria for CEQA purposes and neither the BAAQMD nor the Sacramento Metropolitan Air Quality Management District have established relevant numeric GHG thresholds that would be applicable to the project.

As such, the potential for the project to result in a significant impact under CEQA is evaluated based on the CEQA Appendix G thresholds, including the potential for the project to: (1) generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or (2) conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

### 3.2.3.2 Future Tiering of Discretionary Development from the Qualified ECAS

CEQA Guidelines Section 15183.5 allows the GHG impacts of future projects to be evaluated using an adopted GHG emissions reduction plan, like the ECAS, provided that the plan meets specific requirements. Specifically, Section 15183.5(a) and (b) state:

"(a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review. Project-specific environmental documents may rely on an EIR containing a programmatic analysis of GHG emissions."

“(b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.”

The six requirements specified in the State CEQA Guidelines for GHG reduction plan elements are listed below as well as the ECAS's compliance:

(1) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

The ECAS Update includes a baseline (existing) inventory for 2019, which builds off the previous 2008 inventory; a BAU inventory for 2035; and an adjusted business-as-usual (ABAU) GHG inventory for 2035. The ECAS also includes a projected inventory for 2035 assuming implementation of the ECAS strategies, measures, and actions.

(2) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.

The ECAS Update establishes a GHG emissions target of 470,861 MT CO<sub>2</sub>e in 2035 as presented in Section 2.6. This target aligns with the Statewide GHG emissions target of 40% below 1990 levels by 2030 per SB 32 and demonstrates substantial progress towards meeting the EO S-3-05 target of 80% below 1990 levels by 2050.

(3) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.

The ECAS Update identifies and analyzes GHG emissions from various emission source sectors relevant to the City including transportation, residential and non-residential energy, water and wastewater, solid waste, and off-road equipment.

(4) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.

The ECAS Update includes specific measures to achieve the overall communitywide reduction target.

(5) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.

The ECAS includes periodic implementation and monitoring direction.

(6) Be adopted in a public process following environmental review.

This Supplemental EIR serves as the environmental review for the proposed ECAS consistent with the requirements of CEQA, including opportunities for public review and comment.

### 3.2.4 Impact Analysis

#### 3.2.4.1 Methodology

The evaluation of Impact GHG-1, regarding if the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, is based on a qualitative analysis of the project. Neither the Transportation Element Update or ECAS Update are anticipated to generate measurable GHG emissions and instead, would result in GHG emissions reductions communitywide. Accordingly, there is no project-generated GHG emission calculation methodology to disclose. The ECAS Update provides a complete discussion of calculations used for the inventories (existing, 2035 BAU, and 2035 ABAU) and GHG reduction strategies. The year 2035 was selected to extend the useable life of the ECAS Update and to align with the City's VMT guidance as part of the City's Transportation Element Update.

For definition clarity, the baseline GHG inventory represents a snapshot of the communitywide GHG emissions generated in Vacaville in 2019. The BAU is a projection of future GHG emissions, showing how GHG emissions would change over time if no action is taken at the Federal, State, or local level to reduce them. Accordingly, in the BAU scenario, changes in GHG emissions are caused by changes in demographic trends including population, employment, service population, dwelling units, non-residential square footage, and VMT which are all anticipated to increase from 2019 to 2035. The ABAU refers to a scenario that assumes adopted Federal- and State-mandated GHG emission reduction measures, such as vehicle GHG emission reductions and energy efficiency, would be implemented. These Federal- and State-mandated GHG emission reductions would occur regardless of any reduction measures that the City does or does not implement in this ECAS Update, so they are included in the ABAU forecast.

The evaluation of Impact GHG-2, regarding the potential for the project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, includes a similar qualitative analysis of the potential for the project to support achieving GHG reduction goals in applicable statewide plans and other applicable GHG policies or regulations.

#### 3.2.4.2 Project Impacts

**Impact GHG-1. The project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.**

As part of the ECAS Update, the City has prepared GHG emission inventories for the baseline year of 2019, which builds off of the 2015 ECAS baseline year of 2008. The ECAS Update also estimates projected BAU emissions in 2035 and an ABAU scenario for 2035. The VMT forecast for 2035 from the Transportation Element Update was used as the basis for the 2035 mobile source emission calculations. In summary, estimated communitywide GHG emissions for Vacaville in 2019 were 844,198 MT CO<sub>2</sub>e, projected communitywide GHG emissions for Vacaville under the BAU scenario in 2035 are 1,033,227 MT CO<sub>2</sub>e, and projected communitywide GHG emissions under the ABAU scenario in 2035 are 756,194 MT CO<sub>2</sub>e. Key state actions designed to reduce GHG emissions that are quantified in the ECAS in the ABAU scenario include RPS that reduce energy related emissions and regulations included in EMFAC2017 to reduce vehicle GHG emissions from the transportation sector (including Advanced Clean Cars and Pavley).

The largest GHG emission source category for both the 2019 baseline year and 2035 ABAU is the transportation category, representing 72% of the total GHG emissions in 2019 and 67% of total GHG emissions under the 2035

ABAU. The second largest GHG emission source is the energy sector for both the 2019 baseline year and 2035 ABAU. In 2019, combined residential and non-residential energy represents 22% of total GHG emissions, and under the 2035 ABAU, combined residential and non-residential energy represents 27% of total GHG emissions. For the 2035 ABAU, solid waste accounted for 4%, off-road equipment accounted for 2%, and water/wastewater accounted for the remaining 0.5% of total GHG emissions.

The ECAS sets a substantial GHG reduction target for 2035 to align with statewide emissions reduction goals. The ECAS Update GHG reduction target is 470,861 MT CO<sub>2</sub>e to meet the State's 2030 GHG reduction target of 40% below 1990 levels by 2030 (SB 32) and demonstrate substantial progress towards meeting the State's 2050 GHG reduction target of 80% below 1990 levels by 2050 (EO S-3-05). The additional reductions needed at the local level are estimated based on the emission reductions necessary between the "gap" of the ABAU inventory of 756,194 MT CO<sub>2</sub>e and the inventory goal of 470,861 MT CO<sub>2</sub>e. After accounting for Federal and State regulatory measure GHG reductions, the local gap is estimated to be approximately 285,333 MT CO<sub>2</sub>e by 2035.

The key outcome of the ECAS Update is to reduce GHG emissions where possible to successfully meet the previously mentioned State regulations. While the State uses mandates and actions to reduce a portion of these GHG emissions, reducing the remaining emissions is the responsibility of Vacaville. As the gap between the 2035 ABAU and target is 285,333 MT CO<sub>2</sub>e, Vacaville needs to use its own strategies to reduce 285,333 MT CO<sub>2</sub>e by 2035.

As noted above, transportation is the largest producer of emissions, but reductions are limited due to car-oriented land uses and infrastructure. The major ECAS strategies for transportation include the adoption of electric vehicles and reduction of VMT through transit improvements and other incentives to reduce miles driven. Major energy reductions are possible in the energy sectors. These ECAS reductions are attributed to the electrification of buildings coupled with the adoption of community choice power, which offers cleaner electricity than Pacific Gas and Electric Company. Emissions from electricity used in water and wastewater processes would also be reduced by this community choice power provider.. Solid waste emissions would be reduced during ECAS implementation through the development and implementation of a solid waste reduction plan. This solid waste plan will improve composting capacity citywide and allow for carbon-containing waste to be diverted from landfills. Off-road equipment reductions will result by replacing applicable construction equipment with equipment run by renewable fuels as required by the ECAS. Carbon storage is included in the ECAS strategies and would offer a net gain in carbon storing capacity citywide. Planting trees and spreading compost on City-owned open spaces would improve carbon storage and would be reductions in carbon emissions.

Emissions projected for 2035 under the BAU, ABAU, and with ECAS implementation, along with the 2019 baseline, are presented in Table 3.2.3. The 2035 ECAS column in Table 3.2.3 displays GHG emissions after local measures have been implemented.

**Table 3.2.3. Summary of GHG Emission Inventories and Projections**

| Emissions Category     | 2019 Baseline<br>(MT CO <sub>2</sub> e) | 2035 BAU<br>(MT CO <sub>2</sub> e) | 2035 ABAU<br>(MT CO <sub>2</sub> e) | 2035 ECAS<br>(MT CO <sub>2</sub> e) |
|------------------------|---|------------------------------------|-------------------------------------|-------------------------------------|
| Transportation         | 609,843                                 | 742,094                            | 508,948                             | 286,321                             |
| Residential Energy     | 93,272                                  | 113,456                            | 95,097                              | 23,260                              |
| Non-Residential Energy | 96,316                                  | 130,027                            | 105,080                             | 23,331                              |
| Water/Wastewater       | 3,355                                   | 4,052                              | 3,469                               | 756                                 |
| Solid Waste Disposal   | 28,335                                  | 29,831                             | 29,831                              | 14,166                              |

Table 3.2.3. Summary of GHG Emission Inventories and Projections

| Emissions Category                               | 2019 Baseline<br>(MT CO <sub>2</sub> e) | 2035 BAU<br>(MT CO <sub>2</sub> e) | 2035 ABAU<br>(MT CO <sub>2</sub> e) | 2035 ECAS<br>(MT CO <sub>2</sub> e) |
|--|---|------------------------------------|-------------------------------------|-------------------------------------|
| Off-road Equipment                               | 13,077                                  | 13,768                             | 13,768                              | 11,014                              |
| Carbon Storage                                   | N/A                                     | N/A                                | N/A                                 | (4,802)                             |
| <b>Total</b>                                     | <b>844,198</b>                          | <b>1,033,227</b>                   | <b>756,194</b>                      | <b>454,047</b>                      |
| <i>Percent Change from<br/>2035 BAU Baseline</i> | <i>N/A</i>                              | <i>N/A</i>                         | <i>(27%)</i>                        | <i>(55%)</i>                        |

**Notes:** GHG = greenhouse gas; BAU = Business-as-Usual; ABAU = Adjusted Business-as-Usual; ECAS = Energy and Conservation Action Strategy; MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent. Numbers noted in parenthesis represent a negative number. Totals may not sum due to rounding.

As shown in Table 3.2.3, with implementation of the ECAS, Vacaville's GHG inventory is estimated to be 454,047 MT CO<sub>2</sub>e in 2035; therefore, Vacaville will meet and exceed its target of 470,861 MT CO<sub>2</sub>e in 2035 by 16,814 MT CO<sub>2</sub>e.

The ECAS is anticipated to generate minimal short-term construction GHG emissions associated with GHG reduction strategies, measures, and actions such as vehicle charging stations and infrastructure, and electrification retrofits. While no measurable long-term, operational GHG emissions are anticipated, there are potential operational GHG-related emissions associated with ECAS strategies such as spreading compost using mechanical or petroleum-fueled agricultural equipment; however, many operational activities would be occasional rather than a routine, long-term source of GHG emissions. Of importance, the low-intensity construction and operational activities are anticipated to result in long-term benefits from reducing GHG emissions. Overall, the GHG reductions anticipated to be achieved through implementation of the ECAS are anticipated to offset any GHG emissions generated through ECAS strategies, measures, and actions.

As stated above, the ECAS target inventory goal of 470,861 MT CO<sub>2</sub>e meets the State's SB 32 2030 GHG reduction target of 40% below 1990 levels by 2030 and demonstrates substantial progress towards meeting the State's EO S-3-05 2050 GHG reduction target of 80% below 1990 levels by 2050. Because the ECAS meets (and exceeds) the City-specific GHG target, the ECAS thereby meets the SB 32 2030 target and demonstrates substantial progress towards meeting the EO S-3-05 2050 target.

As discussed in Section 3.2.2.3, for local governments, the 2030 Scoping Plan includes a recommendation to aim for a communitywide goal of no more than 6 MT CO<sub>2</sub>e per capita by 2030 and no more than 2 MT CO<sub>2</sub>e per capita by 2050, which are consistent with the state's long-term goals. The interpolated per capita value between the Scoping Plan 2030 and 2050 goals for 2035 is 5 MT CO<sub>2</sub>e per capita in 2035. After implementation of the ECAS, Vacaville's GHG emissions in 2035 is anticipated to be 454,047 MT CO<sub>2</sub>e. The 2035 residential population for Vacaville is anticipated to be 101,950 persons (MTC and ABAG 2017). Accordingly, the 2035 per capita GHG emissions for the City is 4.45 MT CO<sub>2</sub>e per capita (454,047 MT CO<sub>2</sub>e ÷ 101,950 persons). As the City would achieve 4.45 MT CO<sub>2</sub>e per capita in 2035 and the interpolated Scoping Plan 2035 target is 5 MT CO<sub>2</sub>e per capita, the City would also support the communitywide goals of the 2030 Scoping Plan.

Of note, the ECAS takes into account communitywide emissions, which includes GHG emissions generated by residential and non-residential uses, and thus includes GHG emissions generated by residential population and employment. As such, a more appropriate measure of GHG emissions for the ECAS on an efficiency metric basis may be the service population rather than residential employment only (i.e., per capita). The anticipated service population for the City in 2035 is 134,980 persons (101,950 residential population + 33,030 employment) (MTC

and ABAG 2017). Accordingly, the 2035 per service population GHG emissions for the City is 3.36 MT CO<sub>2e</sub> per service population (454,047 MT CO<sub>2e</sub> ÷ 134,980 service population). While the per capita efficiency metric was provided above for comparison to the CARB 2030 Scoping Plan recommendation, the service population efficiency metric is provided for additional information and is not compared to a similar recommendation.

The ECAS acknowledges that additional actions beyond those identified will be necessary to achieve future, more stringent goals (such as carbon neutrality), and therefore provides a mechanism for implementing and monitoring the ECAS as well as adoption of a new ECAS in the future to incorporate new measures and technologies that will help the State and the City meet its ongoing goals.

In conclusion, adoption and implementation of the ECAS Update would result in a decrease in communitywide GHG emissions from the 2019 baseline, the 2035 BAU, and 2035 ABAU, and would exceed the City-specific GHG emissions target of 470,861 MT CO<sub>2e</sub>, which meets the State's SB 32 2030 GHG reduction target and demonstrates substantial progress towards meeting the State's EO S-3-05 2050 GHG reduction target. As described above, construction and operations associated with implementation of the proposed ECAS strategies, measures, and actions may result in GHG emissions, but these emissions would be more than offset by the long-term reductions in GHG emissions that the actions would enable. Therefore, the project would result in a **less-than-significant impact** related to generation of GHG emissions.

**Impact GHG-2. The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.**

The ECAS is a policy document that identifies strategies to reduce communitywide GHG emissions and help the City support the State in meeting its ambitious climate goals. The purpose of the ECAS is to meet the City's fair share of statewide GHG emission reductions as the 2015 ECAS did to meet AB 32 goals and the ECAS Update does to meet SB 32 goals and demonstrate substantial progress toward the State's longer-term targets, specifically EO S-3-05. The CAP is designed to be consistent with the reduction measures and recommendations contained in CARB's AB 32 Scoping Plan and the Second Scoping Plan Update, which was designed to meet the State's 2030 GHG target set forth in SB 32. As discussed above, the ECAS Update includes strategies, measures, and actions to reduce City GHG emissions from projected ABAU levels by 286,332 MT CO<sub>2e</sub> to achieve the City GHG target of 470,861 MT CO<sub>2e</sub>.

While the ABAU scenario in the ECAS Update conservatively did not take credit for all anticipated statewide reductions, many CARB Scoping Plan measures, such as Advanced Clean Cars and Renewables Portfolio Standard, were included in the ECAS. Other Scoping Plan measures, such as Low Carbon Fuel Standard, additional solar PV measures, and various water and energy efficiency measures, may result in additional reductions for the City and the project would not conflict with implementation of these measures.

As explained in Section 3.2.2.3, the initial Scoping Plan (2008) was designed to attain statewide 2020 GHG emissions targets; the First Update (2014) builds off of the 2008 Scoping Plan and laid the groundwork to start the transition to the post-2020 goals set forth in EO S-3-05 and EO B-16-2012. The Second Update, or the 2030 Scoping Plan (2017), also builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The ECAS Update is specifically developed for the City to help meet the statewide goals as interpolated for 2035 considering 2030 and 2050 GHG reduction targets in SB 32 and EO S-3-05, respectively. Overall, the project would reduce communitywide GHG emissions, which would further the objectives of the Scoping Plan and not obstruct implementation or attainment of the Scoping Plan goals. Furthermore, as explained above, with implementation of the ECAS Update,

the City would achieve 4.45 MT CO<sub>2</sub>e per capita in 2035 and the interpolated Scoping Plan 2035 target is 5 MT CO<sub>2</sub>e per capita; therefore, the City would also support the communitywide goals of the 2030 Scoping Plan. As the VMT estimated in the Transportation Element is included in the ECAS Update, that component of the project would also not conflict with the Scoping Plan. Accordingly, the City would not conflict with the CARB Scoping Plan or Updates and instead, identifies how the City would achieve consistency with the statewide GHG emissions limit.

As discussed in Section 3.2.2.4, the City is within the MTC/ABAG MPO, which adopted the Plan Bay Area in 2017. Plan Bay Area is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks for the San Francisco Bay Area (ABAG and MTC 2017). The Plan Bay Area is not directly applicable to the project because the underlying purpose of the Plan Bay Area is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region, as stipulated under SB 375. Within the Plan Bay Area, the core strategy includes “focused growth” in existing communities along existing transportation networks. The key to implementing the focused growth strategy are Priority Development Areas (PDAs) and Priority Conservative Areas (PCAs). In addition, the MTC and the ABAG Executive Board established seven goals and 13 performance targets to measure Plan Bay Area 2040’s effectiveness in addressing the major challenges facing the region. The City has two PDA’s, the Downtown Vacaville PDA and the Allison PDA. Within each of these PDA’s the City is actively encouraging infill development policies and development standards that will provide increased residential use in close proximity to employment and daily needs services. The Vacaville Downtown Specific Plan is being prepared as an action implementing policies adopted with the 2015 General Plan Update. The Allison PDA is the subject of initial work to undertake the same type of planning effort to facilitate infill development in that area. Implementation of the ECAS would support the overarching intent of the Plan Bay Area through reducing GHG emissions within the City from both residential and non-residential development, including existing and future development. The ECAS specifically includes transportation/land use related GHG reduction strategies that either reduce VMT (e.g., telecommuting and Transportation Demand Management) or reduce emissions associated with vehicle travel on the technology side (e.g., electrification of vehicles). The Transportation Element would also not conflict with the Plan Bay Area as all applicable City-generated vehicle GHG emissions were included in the ECAS Update and the ECAS serves to reduction emissions from the transportation sector. Therefore, the project would support and not conflict with applicable goals and strategies set forth in the Plan Bay Area.

In conclusion, the ECAS Update would not conflict with the statewide GHG reduction targets of AB 32, SB 32 (or EO B-30-15), or EO S-3-05, CARB’s Scoping Plan, or MTC/ABAG Plan Bay Area. Instead, the project would support statewide and regional GHG emission reduction goals and efforts by attaining the City’s fair share of GHG emission reductions and providing an implementation mechanism for GHG reduction strategies at the local level. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs and this impact would be **less than significant**.

### 3.2.5 Cumulative Impacts

Global climate change is a cumulative impact; a project’s potential impact is determined through evaluation of its incremental contribution combined with the cumulative increase of all other sources of GHGs. Because of the inherently cumulative character of GHG impact analysis and the nature of the Transportation Element and ECAS Update project, analysis of cumulative impacts is incorporated into the analysis of Impacts GHG-1 and GHG-2. As discussed above, the cumulative GHG impacts of the proposed project would be less than significant.



### 3.2.6 Mitigation Measures

#### 3.2.6.1 Proposed Mitigation Measures

The Transportation Element and ECAS Update addressed in this Supplemental EIR are not anticipated to result in significant impacts pursuant to CEQA related to GHG emissions, so no mitigation measures are warranted. The policies and actions in the Transportation Element and the updated mitigation measures incorporated into the ECAS will reduce GHG emissions.

#### 3.2.6.2 Significance after Mitigation

No mitigation measures are proposed, and potential impacts related to GHG emissions will be less than significant without mitigation.

### 3.2.7 References

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# 4 Preparers

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This section identifies the prepares of the EIR.

## **City of Vacaville**

Gwen Owens, City Traffic Engineer  
Dorothy Kam, PE, Associate Traffic Engineer  
Chrstina Love, Senior Planner  
Tyra Hays, Senior Planner  
Fred Buderer, Acting Community Development Director  
Girum Awoke, Public Works Director

## **Consultants**

### ***Dudek***

Brian Grattidge, Project Manager  
Christine Kronenberg, Project Advisor  
Jennifer Reed, GHG Analysis  
Monika Krupa, Environmental Associate

### ***Fehr & Peers***

John Gard, PE, RSP, Principal

### ***Pioneer Law Group, LLP***

Andrea A. Matarazzo, Partner

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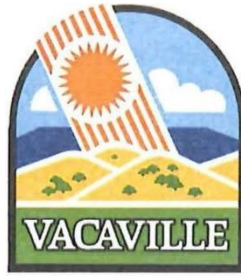
# Appendix A

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NOP







## **CITY OF VACAVILLE**

### **NOTICE OF PREPARATION (NOP) FOR THE GENERAL PLAN TRANSPORTATION ELEMENT UPDATE AND ENERGY AND CONSERVATION ACTION STRATEGY UPDATE PROJECT SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT (EIR)**

**COMMENT PERIOD: September 28, 2020 through October 27 2020**

*All persons and public agencies are invited to submit written comments as to the scope and content of the EIR.*

The City of Vacaville (City) will be the Lead Agency and will prepare a Supplement to the City's 2015 General Plan Environmental Impact Report (EIR), herein referred to as a Supplemental EIR (SEIR) for a proposed update of the City's 2015 General Plan Transportation Element and Energy and Conservation Action Strategy ("proposed project"). The City is requesting input as to the scope and content of the environmental information in the Draft SEIR.

In 2013, Senate Bill (SB) 743 was signed into law. SB 743 is intended to promote the state's goals of encouraging infill development, alternative transportation, and reduced greenhouse gas (GHG) emissions. To promote these goals SB 743 directed the Governor's Office of Planning and Research (OPR) to consider new methods of evaluating transportation impacts under the California Environmental Quality Act (CEQA) as an alternative to existing measures of congestion and delay (typically expressed as level-of-service). As a result of SB 743, the CEQA Guidelines were revised to identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts, effective July 1, 2020. The City proposes to update its General Plan Transportation Element policies to implement the VMT impact metric. The City's proposed VMT standard of significance would generally be based on the recommendations of OPR, as described in *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018).

The City is not proposing any changes to the General Plan's adopted land use plan. The project location includes the City limits and the planning area identified in the City's 2015 General Plan.

This General Plan Update will include modifications to the General Plan goals, policies, and objectives to incorporate VMT as the primary transportation metric, while also describing the extent to which other transportation metrics (e.g., level of service) may still be applicable. The General Plan update will also include an evaluation of project-specific VMT throughout the City under a buildout condition.

In addition, as part of this project, the City's Energy and Conservation Action Strategy (ECAS), which includes a long-range strategy to reduce GHG emissions and achieve greater conservation of resources with regard to transportation and land use, energy, water, solid waste, and open space would be updated to align with the state's goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030. These two elements comprise the proposed project.

**Environmental Effects:** The Draft SEIR will analyze the environmental effects of the proposed project related to greenhouse gas emissions and transportation. Other environmental effects were adequately addressed in the 2015 General Plan EIR.

**Send your comments no later than October 27, 2020 to:** Christina Love, Senior Planner, City of Vacaville Community Development Department, 650 Merchant Street, Vacaville, CA 95688, or email [christina.love@cityofvacaville.com](mailto:christina.love@cityofvacaville.com). Ph: (707) 449-5140.

**PUBLIC SCOPING MEETING:** The City Planning Commission will hold a Scoping Meeting to solicit agency and public comments on the scope of the environmental issues to be addressed in the SEIR at their regularly scheduled meeting on October 20, 2020 at 6:00 pm. Please see the City website for Planning Commission agendas and how to participate remotely.

<https://www.ci.vacaville.ca.us/government/community-development/planning-commission>



# Appendix B

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## Scoping Comment Letters





State of California – Natural Resources Agency  
DEPARTMENT OF FISH AND WILDLIFE  
Bay Delta Region  
2825 Cordelia Road, Suite 100  
Fairfield, CA 94534  
(707) 428-2002  
[www.wildlife.ca.gov](http://www.wildlife.ca.gov)

**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



October 12, 2020

Ms. Christina Love  
City of Vacaville  
650 Merchant Street  
Vacaville, CA 95688  
[christina.love@cityofvacaville.com](mailto:christina.love@cityofvacaville.com)

Subject: General Plan Transportation Element Update and Energy and Conservation Action Strategy Update, Notice of Preparation of a Draft Supplemental Environmental Impact Report, SCH No. 2020090526, City of Vacaville, Solano County

Dear Ms. Love:

The California Department of Fish and Wildlife (CDFW) reviewed the Notice of Preparation (NOP) of a draft Supplemental Environmental Impact Report (EIR) provided for the General Plan Transportation Element Update and Energy and Conservation Action Strategy Update (Project) located in the City of Vacaville, Solano County.

CDFW is a Trustee Agency with responsibility under the California Environmental Quality Act (CEQA) §15386 for commenting on projects that could impact fish, plant and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as a California Endangered Species Act (CESA) Incidental Take Permit (ITP), a Lake and Streambed Alteration (LSA) Agreement, or other provisions of the Fish and Game Code that afford protection to the state's fish and wildlife trust resources. Pursuant to our jurisdiction, CDFW has the following concerns, comments, and recommendations regarding the Project.

## **PROJECT DESCRIPTION AND LOCATION**

The Project includes an update to the City of Vacaville's (City) 2015 General Plan Transportation Element and Energy and Conservation Action Strategy. The City will incorporate vehicle miles traveled as the appropriate metric to assess a future project's transportation impacts and will update the Energy and Conservation Action Strategy to align with the statewide greenhouse gas emissions reduction goals of 40% below 1990 levels by 2030. The Project takes place throughout the City of Vacaville.

The CEQA Guidelines (§§15124 and 15378) require that the draft EIR incorporate a full project description, including reasonably foreseeable future phases of the Project, and that contains sufficient information to evaluate and review the Project's environmental impact. Please include a complete description of the following Project components in the Project description:

Ms. Christina Love  
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- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes.
- Encroachments into riparian habitats, wetlands or other sensitive areas.
- Area and plans for any proposed buildings/structures, ground disturbing activities, fencing, paving, stationary machinery, landscaping, and stormwater systems.
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise and greenhouse gas generation, traffic generation, and other features.
- Construction schedule, activities, equipment, and crew sizes.

## ENVIRONMENTAL SETTING

Sufficient information regarding the environmental setting is necessary to understand the Project's, and its alternative's (if applicable), significant impacts on the environment (CEQA Guidelines, §§15125 and 15360). CDFW recommends that the CEQA document prepared for the Project provide baseline habitat assessments for special-status plant, fish and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, or endangered species (CEQA Guidelines, §15380). Fully protected, threatened or endangered, candidate, and other special-status species that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to:

- Swainson's hawk (*Buteo swainsoni*), state listed as threatened
- Contra Costa goldfields (*Lasthenia conjugens*), federally listed as endangered, California Rare Plant Rank (CRPR) 1B.1
- Two-fork clover (*Trifolium amoenum*), federally listed as endangered, CRPR 1B.1
- Vernal pool tadpole shrimp (*Lepidurus packardii*), federally listed as endangered
- Vernal pool fairy shrimp (*Branchinecta lynchi*), federally listed as threatened
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), federally listed as threatened
- Burrowing owl (*Athene cunicularia*), California Species of Special Concern (SSC)

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- Western pond turtle (*Emys marmorata*), SSC
- Foothill yellow-legged frog (*Rana boylei*), SSC
- Townsend's big-eared bat (*Corynorhinus townsendii*), SSC
- Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), CRPR 1B.1
- Lengenere (*Lengenere limosa*), CRPR 1B.1
- Adobe-lily (*Fritillaria pluriflora*), CRPR 1B.2
- Alkali milk-vetch (*Astragalus tener* var. *tener*), CRPR 1B.2
- Heartscale (*Atriplex cordulata* var. *cordulata*) CRPR 1B.2
- Recurved larkspur (*Delphinium recurvatum*), CRPR 1B.2
- Saline clover (*Trifolium hydrophilum*), CRPR 1B.2
- San Joaquin pearlscale (*Extriplex joaquinana*), CRPR 1B.2
- Dwarf downingia (*Downingia pusilla*), CRPR 2B.2
- White-tailed kite (*Elanus leucurus*), Fully Protected Species

Habitat descriptions and species profiles should include information from multiple sources: aerial imagery, historical and recent survey data, field reconnaissance, scientific literature and reports, and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Based on the data and information from the habitat assessment, the CEQA document can then adequately assess which special-status species are likely to occur in the Project vicinity.

CDFW recommends that prior to Project implementation, surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: <https://wildlife.ca.gov/Conservation/Survey-Protocols>.

Botanical surveys for special-status plant species, including those with a California Rare Plant Rank (<http://www.cnps.org/cnps/rareplants/inventory/>), must be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and require the identification of reference populations. Please refer to CDFW protocols for surveying and evaluating impacts to rare plants available at: <https://wildlife.ca.gov/Conservation/Plants>.



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## **IMPACT ANALYSIS AND MITIGATION MEASURES**

The CEQA Guidelines (§15126.2) necessitate that the draft EIR discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project. This includes evaluating and describing impacts such as:

- Potential for “take” of special-status species;
- Loss or modification of breeding, nesting, dispersal and foraging habitat, including vegetation removal, alternation of soils and hydrology, and removal of habitat structural features (e.g. snags, roosts, overhanging banks);
- Permanent and temporary habitat disturbances associated with ground disturbance, noise, lighting, reflection, air pollution, traffic or human presence; and
- Obstruction of movement corridors, fish passage, or access to water sources and other core habitat features.

The CEQA document also should identify reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project’s contribution to the impact (CEQA Guidelines, §15355). Although a project’s impacts may be insignificant individually, its contributions to a cumulative impact may be considerable; a contribution to a significant cumulative impact, e.g., reduction of available habitat for a listed species, should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

Based on the comprehensive analysis of the direct, indirect, and cumulative impacts of the Project, the CEQA Guidelines (§§ 15021, 15063, 15071, 15126.2, 15126.4 and 15370) direct the lead agency to consider and describe all feasible mitigation measures to avoid potentially significant impacts in the draft EIR, and/or mitigate significant impacts of the Project on the environment. This includes a discussion of take avoidance and minimization measures for special-status species, which are recommended to be developed in early consultation with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and CDFW. These measures can then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels. Fully protected species such as white-tailed kite may not be taken or possessed at any time (Fish and Game Code § 3511). Therefore, the draft EIR is advised to include measures to ensure complete take avoidance of this fully protected species.

CDFW is available to provide biological Mitigation Measures for special-status species, including fully protected species and those species listed above.

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## REGULATORY REQUIREMENTS

### *California Endangered Species Act*

Please be advised that a CESA ITP must be obtained if the Project has the potential to result in take<sup>1</sup> of plants or animals listed under CESA, either during construction or over the life of the Project. Issuance of a CESA Permit is subject to CEQA documentation; the CEQA document must specify impacts, mitigation measures, and a mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA ITP.

CEQA requires a Mandatory Finding of Significance if a project is likely to substantially restrict the range or reduce the population of a threatened or endangered species. (Pub. Resources Code, §§ 21001, subd. (c), 21083; CEQA Guidelines, §§ 15380, 15064, and 15065). Impacts must be avoided or mitigated to less-than-significant levels unless the CEQA Lead Agency makes and supports Findings of Overriding Consideration (FOC). The CEQA Lead Agency's FOC does not eliminate the project proponent's obligation to comply with CESA.

### *Lake and Streambed Alteration Agreement*

CDFW requires an LSA Notification, pursuant to Fish and Game Code section 1600 et. seq., for project activities affecting lakes or streams and associated riparian habitat. Notification is required for any activity that may substantially divert or obstruct the natural flow; change or use material from the bed, channel, or bank including associated riparian or wetland resources; or deposit or dispose of material where it may pass into a river, lake or stream. Work within ephemeral streams, washes, watercourses with a subsurface flow, and floodplains are subject to notification requirements. CDFW will consider the CEQA document for the Project and may issue an LSA Agreement. CDFW may not execute the final LSA Agreement until it has complied with CEQA as a Responsible Agency.

### *Migratory Birds and Raptors*

CDFW also has authority over actions that may disturb or destroy active nest sites or take birds without authorization. Fish and Game Code sections protecting birds, their eggs, and nests include sections 3503, 3503.5, and 3513. Fully protected species may not be taken or possessed at any time (Fish and Game Code, § 3511). Migratory birds are also protected under the federal Migratory Bird Treaty Act.

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<sup>1</sup> Take is defined in Fish and Game Code section 86 as hunt, pursue, catch, capture, or kill, or attempt any of those activities.

Ms. Christina Love  
City of Vacaville  
October 12, 2020  
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## ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to CNDDDB. The CNDDDB field survey form, online field survey form, and contact information for CNDDDB staff can be found at the following link: <https://wildlife.ca.gov/data/CNDDDB/submitting-data>.

## FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish and Game Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

If you have any questions, please contact Ms. Amanda Culpepper, Environmental Scientist, at [amanda.culpepper@wildlife.ca.gov](mailto:amanda.culpepper@wildlife.ca.gov), or Ms. Karen Weiss, Senior Environmental Scientist (Supervisory), at [karen.weiss@wildlife.ca.gov](mailto:karen.weiss@wildlife.ca.gov).

Sincerely,

DocuSigned by:  
  
BE74D4C93C604EA...  
Gregg Erickson  
Regional Manager  
Bay Delta Region

cc: State Clearinghouse



## NATIVE AMERICAN HERITAGE COMMISSION

September 29, 2020

Christina Love  
City of Vacaville  
650 Merchant Street  
Vacaville, CA 95688

CHAIRPERSON  
**Laura Miranda**  
Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

SECRETARY  
**Merri Lopez-Kelley**  
Luiseño

PARLIAMENTARIAN  
**Russell Attebery**  
Karuk

COMMISSIONER  
**Marshall McKay**  
Wintun

COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Julie Tumamait-Stenslie**  
Chumash

COMMISSIONER  
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EXECUTIVE SECRETARY  
**Christina Snider**  
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(916) 373-3710  
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[NAHC.ca.gov](http://NAHC.ca.gov)

**Re: 2020090526, General Plan Transportation Element Update and Energy and Conservation Action Strategy Project, Solano County**

Dear Ms. Love:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

## AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

**1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:**

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

**2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:**

A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

**3. Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

**4. Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

**5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

**6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
  - A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- Avoidance and preservation of the resources in place, including, but not limited to:
    - Planning and construction to avoid the resources and protect the cultural and natural context.
    - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protecting the cultural character and integrity of the resource.
    - Protecting the traditional use of the resource.
    - Protecting the confidentiality of the resource.
  - Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - Protecting the resource. (Pub. Resource Code §21084.3 (b)).
  - Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
  - Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
  - The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
  - The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

## SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf).

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

## NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([http://ohp.parks.ca.gov/?page\\_id=1068](http://ohp.parks.ca.gov/?page_id=1068)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

- b.** The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.
- 3.** Contact the NAHC for:
- a.** A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
  - b.** A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
- 4.** Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
- a.** Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
  - b.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
  - c.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: [Nancy.Gonzalez-Lopez@nahc.ca.gov](mailto:Nancy.Gonzalez-Lopez@nahc.ca.gov).

Sincerely,



Nancy Gonzalez-Lopez  
Cultural Resources Analyst

cc: State Clearinghouse





**DEPARTMENT OF TRANSPORTATION**

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OFFICE OF TRANSIT AND COMMUNITY PLANNING  
P.O. BOX 23660, MS-10D  
OAKLAND, CA 94623-0660  
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*Making Conservation  
a California Way of Life.*

October 27, 2020

SCH #2020090526  
GTS # 04-SOL-2020-00184  
GTS ID: 20701  
Co/Rt/Pm: SOL/80/26.004

Christina Love, Senior Planner  
City of Vacaville  
Community Development Department,  
650 Merchant Street,  
Vacaville, CA 95688

**City of Vacaville General Plan Transportation Element Notice of Preparation (NOP)**

Dear Christina Love:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the City of Vacaville General Plan Transportation Element Update. We are committed to ensuring that impacts to the State's multimodal transportation system and to our natural environment are identified and mitigated to support a safe, sustainable, integrated and efficient transportation system.

This General Plan Update proposes to include modifications to the General Plan goals, policies, and objectives to incorporate Vehicle Miles Traveled (VMT) as the primary transportation metric, while also describing the extent to which other transportation metrics (e.g., level of service) may still be applicable. The General Plan update will also include an evaluation of project-specific VMT throughout the City under a buildout condition.

Caltrans supports this project's stated objectives, including the promotion of VMT as the Citywide metric to understand the impacts of development on the transportation network. These objectives and the City's Energy and Conservation Action Strategy assist the State in meeting the Statewide goals for lowering GHG emissions by lowering VMT.

*"Provide a safe, sustainable, integrated and efficient transportation  
system to enhance California's economy and livability"*

Christina Love, Senior Planner  
October 27, 2020  
Page 2

Thank you again for including Caltrans in the environmental review process. Should you have any questions regarding this letter, please contact Laurel Sears at (laurel.sears@dot.ca.gov). Additionally, for future notifications and requests for review of new projects, please contact LDIGR-D4@dot.ca.gov.

Sincerely,

A handwritten signature in black ink that reads "Mark Leong". The signature is fluid and cursive, with a long horizontal stroke extending from the end of the name.

Mark Leong  
District Branch Chief  
Local Development - Intergovernmental Review

c: State Clearinghouse

RECEIVED  
OCT 08 2020  
CITY OF VACAVILLE  
PW ADMINISTRATION



YOCHA DEHE  
CULTURAL RESOURCES

October 5, 2020

City of Vacaville | Public Works Department  
Attn: Gwen Owens, City Traffic Engineer  
650 Merchant Street  
Vacaville, CA 95688

RE: Vacaville General Plan Update YD-03202015-02

Dear Ms. Owens:

Thank you for your project notification letter dated, September 24, 2020, regarding cultural information on or near the proposed Vacaville General Plan Update, Solano County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded that it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area and would like to continue to receive updates on the project.

Should you have any questions, please contact the following individual:

Kristin Jensen, CRD Administrative Assistant  
Yocha Dehe Wintun Nation  
Office: (530) 796-0105  
Email: [kjensen@yochadehe-nsn.gov](mailto:kjensen@yochadehe-nsn.gov)

Please refer to identification number YD - 03202015-02 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

Tribal Historic Preservation Officer

## Felisa Pugay

---

**From:** Christina Love <Christina.Love@cityofvacaville.com>  
**Sent:** Tuesday, October 20, 2020 1:55 PM  
**To:** Doug Chen  
**Cc:** Community Development Info  
**Subject:** Re: Comments for Planning Commission Meeting, 10/20/2020, Item #8C

Thank you for your comments. We will take this into consideration as we move forward with the State's requirement for VMT.

We will place you on the list of future notifications regarding they project.

On Oct 20, 2020, at 1:39 PM, Doug Chen <[dchen@discoverybuilders.com](mailto:dchen@discoverybuilders.com)> wrote:

I request to be added to the interest list on this matter and be notified on future meetings. The development of traffic and transportation modeling to analyze impacts based on VMT should be open and transparent, using sound model assumptions, inputs, and logics; with model outputs that can be verified, calibrated, and reproduced. I recommend that workshops be conducted during model development to allow for participation by professionals.

Respectfully,

Doug Chen, RCE, LS  
Discovery Builders  
4021 Port Chicago Hwy  
Concord CA 94520  
925.250.2658, [dchen@discoverybuilders.com](mailto:dchen@discoverybuilders.com)