

# Memorandum

Date: November 11, 2022  
To: Jay Bautista, P.E., City Traffic/Transportation Manager  
From: Paul Herrmann, P.E.  
Biling Liu  
Subject: **Subarea 29 Specific Plan Amendment Vehicle Miles Traveled Assessment**

OC21-0829

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Fehr & Peers has completed a Transportation Impact Assessment that analyzes Vehicle Miles Traveled (VMT) for the Subarea 29 Specific Plan Amendment (Project) located in the Ontario Ranch area of Ontario, California. This VMT analysis is consistent with requirements of Senate Bill 743 (SB 743), the Office of Planning and Research's (OPR's) Technical Advisory, and the City of Ontario's adopted VMT Impact Analysis Resolution (No. 2020-071).

The remainder of this memorandum is divided into six sections: Project Description, Traffic Modeling Methodology, Project-Level VMT Assessment, Cumulative VMT Assessment, Active Transportation and Public Transit Review, and Transportation Impact Analysis.

## Project Description

The City of Ontario approved the Subarea 29 Specific Plan and certified the associated *Subarea 29 Specific Plan Final Environmental Impact Report* in October 2006. The Approved Specific Plan is part of the Ontario Ranch, a master planned community in the City of Ontario. The Project area is bounded by Eucalyptus Avenue to the north, The Cucamonga Creek on the west, Haven Avenue/Sumner Avenue on the east, and Merrill Avenue/Bellegrave Avenue on the south. **Figure 1** shows the approved Specific Plan land use map. The approved Specific Plan allows up to 2,418 single family dwelling units (SF DUs), 14,600 square feet recreational facility, 87,000 square feet commercial retail, and an 800-student elementary school.

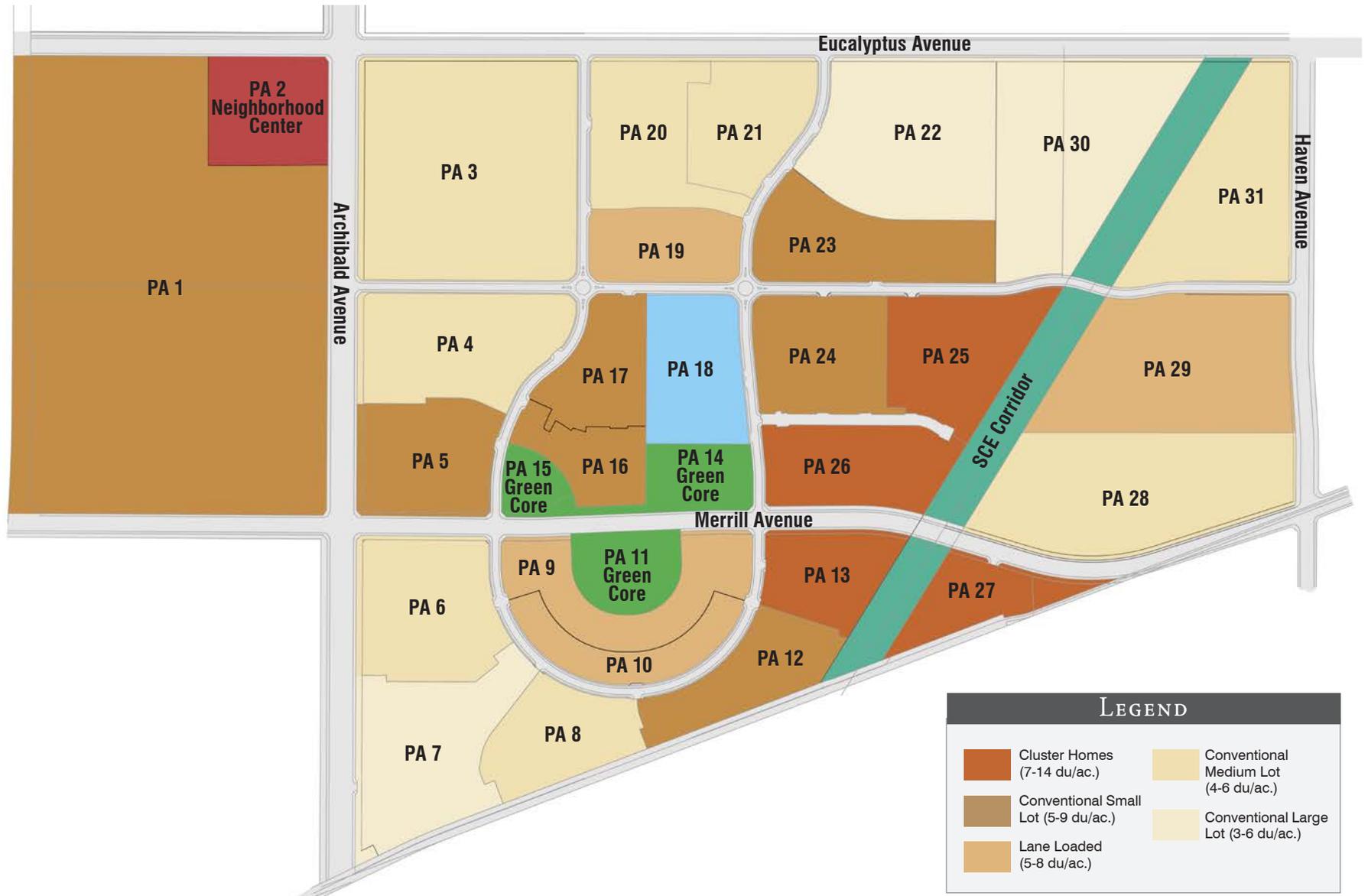


Figure 1

Subarea 29 Specific Plan  
Approved Land Use Plan





**Figure 2** shows the proposed Project's land use map. The Project proposes expanding the Specific Plan from 540 gross acres of land to a new site area of 653 gross acres of land. The Project proposes to incorporate Planning Areas 32, 33, and 34 into the Specific Plan and allow for the development of 1,315 SF DUs and a 1,200-student middle school. The Project would increase the total number of allowed units in the Specific Plan from 2,418 units to 3,888 units (an increase of 1,470 units), including an increase in density in Planning Areas 30 and 31 from 197 units to 352 units. The Project proposes to incorporate Planning Areas 32, 33, and 34 into the Specific Plan and allow for the development of 1,315 SF DUs and a 1,200-student middle school. **Appendix A** summarizes the differences between the Approved and Proposed Specific Plans by each planning area.

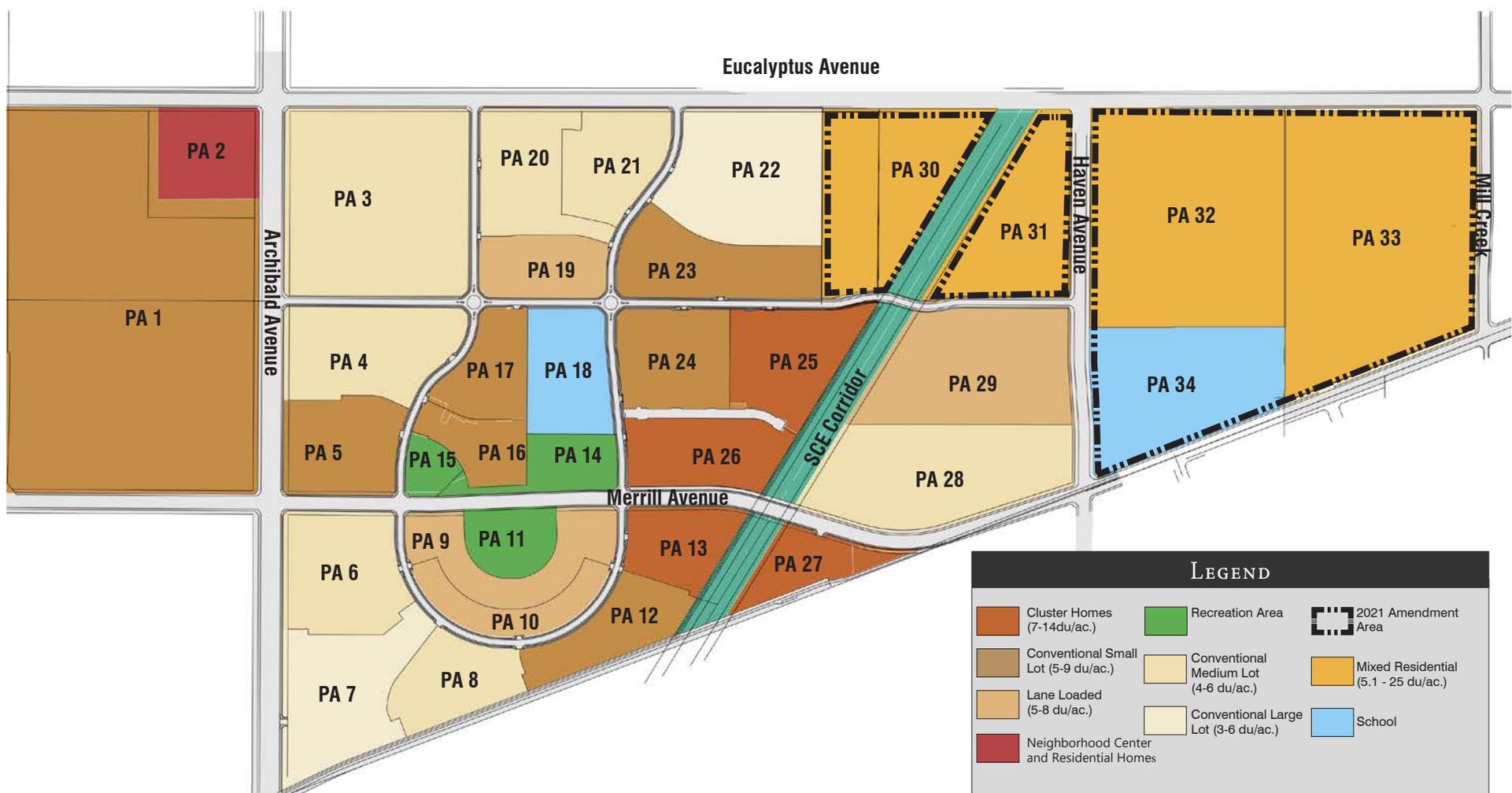
The new Planning Areas 32-34 are bounded by Eucalyptus Avenue on the north, Haven Avenue/Sumner Avenue on the west, Mill Creek Avenue/Scholar Way on the east, and Merrill Avenue/Bellegrave Avenue on the south and currently exist as dairy farming and agriculture uses. The Project is consistent with the recently adopted Ontario General Plan Update, The Ontario Plan (TOP), approved August 16, 2022.

## Traffic Modeling Methodology

The San Bernardino Traffic Analysis Model (SBTAM) was utilized to estimate VMT for the analysis scenarios. SBTAM began as the Southern California Association of Governments (SCAG) regional travel demand forecasting model and underwent a subarea model development to add detail and refinement within San Bernardino County. The SBTAM roadway network and socio-economic data within the City of Ontario were updated to be consistent with TOP Environmental Impact Report (EIR) scenario modeling for Base Year (2019) and Approved General Plan Buildout (2050). Outside of the City of Ontario, this model assumes datasets consistent with the 2016 SCAG Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) with a base year of 2012 and future year of 2040<sup>1</sup>.

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<sup>1</sup> Please note that SBTAM does not have an available dataset consistent with the SCAG 2020 RTP/SCS. At the time of this analysis, SBTAM was in the process of being updated with the SCAG 2020 RTP/SCS data, but the data was not available. This analysis uses the most current, available SBTAM model version consistent with the City of Ontario's VMT Impact Resolution.



LEGEND		
Cluster Homes (7-14 du/ac.)	Recreation Area	2021 Amendment Area
Conventional Small Lot (5-9 du/ac.)	Conventional Medium Lot (4-6 du/ac.)	Mixed Residential (5.1 - 25 du/ac.)
Lane Loaded (5-8 du/ac.)	Conventional Large Lot (3-6 du/ac.)	School
Neighborhood Center and Residential Homes		



Figure 2  
Subarea 29 Specific Plan  
Proposed Land Use Plan



As recommended in the SBTAM model documentation, model assignment parameters were set to run up to five loops with a minimum convergence criterion<sup>2</sup> of 0.01.

### **VMT Analysis Methodology**

Consistent with the City of Ontario's adopted VMT Impact Analysis Resolution, project-level and cumulative VMT assessments were performed. For the project-level assessment, VMT was estimated using the Origin/Destination (OD) method. Project VMT was compared to the adopted threshold of significance:

*A significant impact would occur if the project VMT per Service Population exceeds the Citywide average per service population under General Plan Buildout Conditions.*

The Citywide average OD VMT per service population under General Plan Buildout Conditions was calculated with the approved TOP traffic model described above.

For the cumulative assessment, the following threshold of significance was applied:

*A significant impact would occur if the project caused total daily VMT within the City to be higher than the no project alternative under cumulative conditions.*

### **Origin/Destination (OD) VMT**

The OD method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area and tracks those trips from their estimated origins to their estimated destinations. The OD method is completed after the final loops of assignment in the four-step travel demand model (after person trips have been converted to total vehicle trips). Origins are all vehicle trips that start in a defined area (such as a Traffic Analysis Zone or City boundary), and destinations are all vehicle trips that end in that defined area.

The OD method accounts for trips that begin or end outside of the travel demand model, special generator trips (e.g. Ontario Airport) and truck trips and therefore provides a more complete estimate of all VMT within the study area.

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<sup>2</sup> Convergence criteria refers to the acceptable difference in the traffic volumes produced by different loops of the vehicle assignment. A convergence criteria of 0.01 indicates that the model is producing similar outputs with an allowance of 1% difference between each loop. This criterion is outlined in the model documentation as the recommended convergence criteria for the model.



It should also be noted that, although OD VMT includes trips to/from the City that originate or are destined to locations outside of the model area, those trip lengths are artificially truncated at the model boundary.

## Project-Level VMT Assessment

Project-level VMT estimates for the specific plan were performed using the Approved General Plan Buildout (2050) model using the Socio-Economic Data (SED) input data shown in **Table 1**. As shown, Planning Areas 1-29 were not modified from the previously approved EIR. Planning Areas 30-34 were isolated in different Traffic Analysis Zones (TAZs) in the model to evaluate the specific plan as a whole and Planning Areas 30-34 separately.

The original SED in the Project TAZs were referenced to estimate persons per household assumptions for the Project. The student and teacher ratio were collected from nearby TAZs with schools to estimate the education employment for the Project.

**Table 1: Land Use Data Summary**

Land Use	Planning Areas 1-29	Planning Areas 30-34	Total Proposed Specific Plan
<b>Households</b>	<b>2,221</b>	<b>1,667</b>	<b>3,888</b>
<b>Population</b>	<b>8,878</b>	<b>6,664</b>	<b>15,542</b>
<b>Total Employment</b>	<b>263</b>	<b>56</b>	<b>319</b>
Retail Employment	205	0	205
Entertainment Employment	25	0	25
Educational Employment	33	56	89

*Source: Lewis Retail Centers, 2022*

The VMT estimates performed for the Project are presented in **Table 2**. As shown in **Table 2**, the OD VMT/SP for both Planning Areas 30-34 and for the total Project is lower than the Citywide average OD VMT per service population under General Plan Buildout Conditions.



Land Use	Proposed Specific Plan		
	Planning Areas 1-29	Planning Areas 30-34	Total Project (Planning Areas 1-34)
Population	8,878	6,664	15,542
Employment	263	56	319
Service Population	9,141	6,720	15,861
Total OD VMT	258,655	160,272	418,927
OD VMT/SP <sup>3</sup>	28.30	23.85	26.4
Citywide Threshold VMT/SP	29.42		

Notes:

1. SP = Service Population; the sum of population and employment.

Source: TOP Model, 2022

## Cumulative VMT Assessment

Since the Project is consistent with the General Plan land use, there is no difference between the Future No Project and Future With Project conditions and therefore there is no forecast change in daily VMT within the City under cumulative conditions.

## Active Transportation and Public Transit Review

Potential impacts to public transit, pedestrian facilities and travel, and bicycle facilities and travel were evaluated to determine if the Project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance<sup>3</sup> or safety of such facilities.

In general, the Ranch area has been undergoing major re-development over the past decade as it shifts from agricultural to residential land uses. There are limited active transportation facilities and transit service in undeveloped areas. Bicycle and pedestrian facilities are proposed as part of the Ontario General Plan and Bicycle Master Plan on most roadways throughout the Ranch area.

### Bicycle Facilities Review

There are four bicycle facility classifications recognized by the City of Ontario and are classified as follows:

#### Class I Bikeways (Bike Paths)

Class I bicycle facilities are bicycle trails or paths that are off-street and separated from automobiles. They are a minimum of eight feet in width for two-way travel and include bike lane signage and designated

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<sup>3</sup> Per the OPR Technical Advisory, decrease of performance does not include increase in users.



street crossings where needed. A Class I Bike Path may parallel a roadway (within the parkway) or may be a completely separate right-of-way that meanders through a neighborhood or along a flood control channel or utility right-of-way.

#### Class II Bikeways (Bike Lanes)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.

#### Class III Bikeways (Bike Routes)

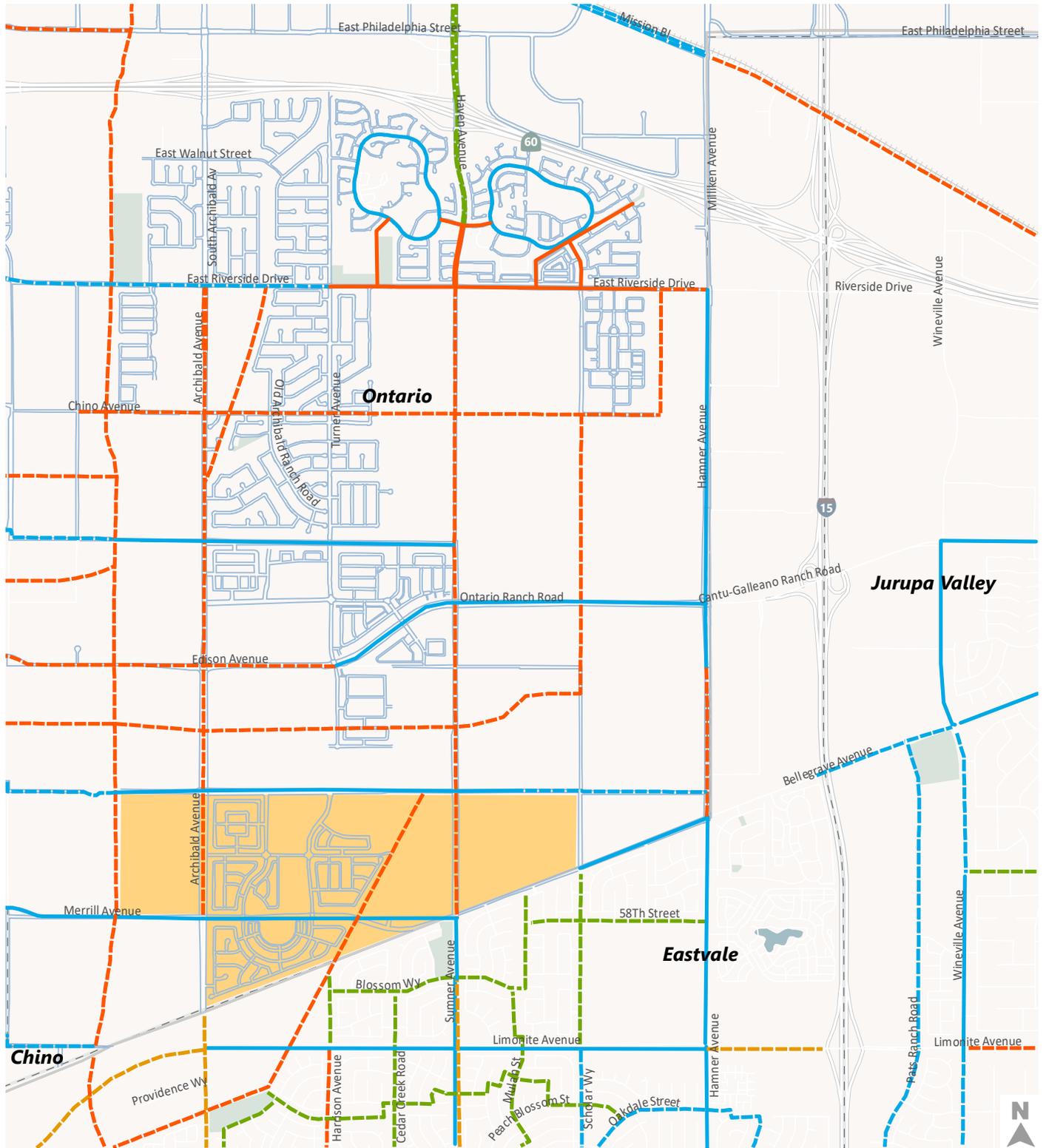
Class III Bikeways are streets providing for shared use by motor vehicles and bicyclists. While bicyclists have no exclusive use or priority, signage both by the side of the street and stenciled on the roadway surface alerts motorists to bicyclists sharing the roadway space and denotes that the street is an official bike route.

#### Class IV Bikeways (Cycle Tracks)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and are protected from vehicular traffic via separations (e.g. grade separation, flexible posts, inflexible physical barriers, on-street parking). California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.

Existing and proposed bike facilities in the study area are shown on **Figure 3**. Adjacent to the Project site, Class II bikeways exist on the following roadway segments:

- Both sides on the portions of Eucalyptus Avenue that are built
- Both Sides on Merrill Avenue/Bellegrave Avenue between Archibald Avenue and Haven Avenue/Sumner Avenue



- Existing Sidewalk    - - - Planned Class I    ■ Specific Plan Area
- Existing Class I    - - - Planned Class II    □ Cities
- Existing Class II    - - - Planned Class III    ■ Parks
- Existing Class III    - - - Planned Class IV

Figure 3





In the area around the Project site, existing Class II bikeways can be found on the following roadway segments:

- Northbound on Hamner Avenue/Milliken Avenue north of Ontario Ranch Road
- Both sides on Hamner Avenue/Milliken Avenue south of Merrill Avenue/Bellegrave Avenue
- Southbound on Haven Avenue/Sumner Avenue south of Merrill Avenue/Bellegrave Avenue
- Both sides on Schaefer Avenue between Archibald Avenue and Haven Avenue/Sumner Avenue
- Both sides on Merrill Avenue/Bellegrave Avenue east of Mill Creek Avenue/Scholar Way
- Both sides on Limonite Avenue from Archibald Avenue to Milliken Avenue/Hamner Avenue

Many bicycle facilities are proposed in the Ranch area on most major north-south and east-west streets. A multi-purpose pedestrian and bicycle trail will be provided by the project within the Southern California Edison (SCE) Corridor between Eucalyptus Avenue and County Line Channel. This multi-purpose trail will provide a link within the City's Master Planned trail system proposed for SCE easements and corridors throughout the City. As the Ranch area builds out consistent with the City's Master Planned trail system, the Project will be part of a well-connected bicycle network.

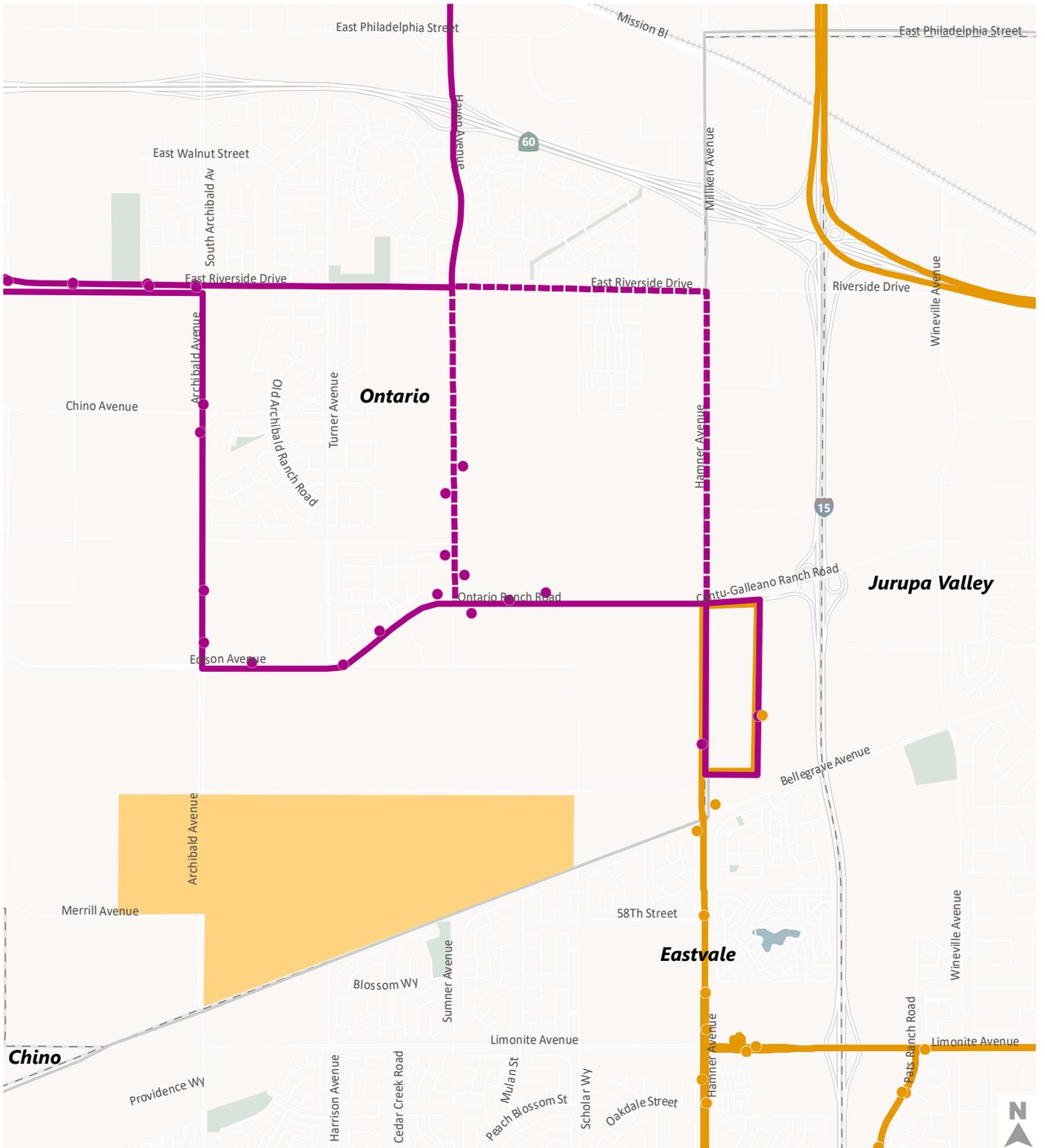
### **Pedestrian Facilities Review**

Pedestrian facilities include sidewalks, crosswalks, pedestrian signals, and multi-use trails. The portions of the Ranch area that have already been re-developed have accessible pedestrian facilities. At existing signalized intersections, adjacent to and within the Project site, crosswalks and pedestrian push-button actuated signals are provided. At existing unsignalized intersections, adjacent to and within the Project site, striped crosswalks are generally provided. Under the assumption that pedestrian facilities will continue to be constructed as the Ranch area develops, the Project will be part of a safe and efficient pedestrian network.

The Project proposes to develop a network of paved sidewalks separated from vehicular travel lanes by landscaped parkway throughout the Project site. Sidewalks are proposed on both sides of local streets with bulb-outs at local street intersections to reduce crossing distances. The Project proposes a local neighborhood street design as traffic calming to assist in reducing speeds and cut-through traffic.

### **Public Transit Review**

There are bus and regional transit service options available to the City of Ontario. Since the Ranch area is mostly undeveloped at the time, limited routes and transit options are available near the Project site. It is anticipated that new routes will be proposed to support the future development, but those routes have not been identified at this time. Existing transit routes in the study area are shown on **Figure 4**.



- Omnitrans Routes
- Tripper Routes
- Riverside Transit Agency (RTA) Routes
- Omnitrans Transit Stops
- RTA Transit Stops
- Cities
- Parks
- Specific Plan Area

Figure 4





### Omnitrans

Omnitrans provides local and express services to San Bernardino County, which includes the City of Ontario. The only Omnitrans route that provides service near the Project site is Route 87 north of the project site. The closest bus stops are on Ontario Ranch Road a half mile north of the Project site and on Hamner Avenue a half mile east of the Project site.

**Route 87** operates Monday to Saturday between 4:35 AM and 9:50 PM with one-hour headways and provides service to Rancho Cucamonga and Eastvale through the Ranch area.

### Riverside Transit Agency (RTA)

RTA coordinates transit services throughout Riverside County. RTA Provides local and regional services throughout the region with 33 fixed routes, four Commuter Link express routes, and Dial-A-Ride services using 334 vehicles. RTA provides two transit lines near the project with bus stops on Hamner Avenue at Bellgrave Avenue a half mile east of the Project site.

**Route 3** connects Eastvale, Norco and Corona. Route 3 operates weekdays 5:00 AM – 10:00 PM and weekends 6:00 AM to 9:00 PM on approximately 70-minute headways.

**Route 29** connects Downtown Riverside, Jurupa Valley and Eastvale. Route 29 operates weekdays 5:00 AM – 10:00 PM and weekends 6:00 AM to 9:00 PM on approximately 70-minute headways.

The Project proposes to implement a transit stop at Haven Avenue near Bellegrave Avenue that RTA is anticipated to serve.

### Metrolink

Commuter train service in the City of Ontario is provided by Metrolink, which provides service throughout the Southern California region. The Ontario-East Metrolink Station is located near the corner of Mission Boulevard and Haven Avenue, approximately three and half miles north of the Project site. The Metrolink railroad runs east-west through the middle of the city, with grade separations at Milliken and Haven Avenues. This same rail line is occasionally used by freight trains when the Union Pacific Railroad line (running east-west south of the I-10 freeway) is closed or restricted for limited periods. Local freight train traffic in the city includes switches on various spur lines serving the industrial areas at the southern section of the city.

**Riverside Line** links downtown Riverside to Union Station in downtown Los Angeles with a stop at the Ontario Train Station. There are five morning trains and one afternoon train to Union Station on



weekdays. There are five afternoon trains from Ontario to Riverside on weekdays.

### Amtrak

Amtrak is a passenger railroad service that provides medium and long-distance inter-city rail service throughout the United States. Locally, a station is provided southeast of the intersection of Euclid Avenue at Holt Boulevard. Two lines are available at the Ontario Station.

**Sunset Limited Line** provides intercity rail service three times per week between Los Angeles and New Orleans, Louisiana, with California stops in Los Angeles, Pomona, Ontario and Palm Springs. The service is available once a day at the Ontario Train Station from Los Angeles.

**Texas Eagle Line** provides intercity rail service three times per week between Los Angeles and Chicago, Illinois, with California stops in Los Angeles, Pomona, Ontario and Palm Springs. The service is available once a day at the Ontario Train Station from Los Angeles.

## Transportation Impact Analysis

This assessment answers the following four questions from Appendix G. For purposes of this EIR, a project would normally have a significant effect on the environment if the project would: #

- T-1 Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- T-2 Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b) regarding policies to reduce vehicle miles travelled (VMT).
- T-3 Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- T-4 Result in inadequate emergency access.

### T-1 Assessment

The proposed project is consistent with the recently adopted Ontario Plan and the land use projections in the 2020 SCAG RTP/SCS for the City of Ontario. The effect Project is further analyzed from a VMT perspective in the T-2 assessment below. The results of that assessment indicate that the project would be more efficient from a VMT per capita perspective and therefore the project would result in a **less-than-significant** impact.

A review of the Project description did not identify any disruption to existing bicycle, pedestrian nor



transit facilities; The proposed Project provides consistency related to regional active transportation plans, transit plans, and other mobility infrastructure plans in the Ontario Ranch area. New transit trips are anticipated to be generated by the Project and the Project will include a new transit stop at Haven Avenue near Bellegrave which would be anticipated to improve transit service in the region. Additional transit ridership demand could increase boarding and alighting activity at existing bus stops and transit terminals located near the Project site. The Project is consistent with the adopted plans regarding bicycle and pedestrian infrastructure and is not expected to decrease the performance or safety of these facilities. Therefore, the Project is considered to have a **less than significant impact** on active transportation and on public transit.

### T-2 Assessment

The project is consistent with CEQA Guidelines section 15064.3, subdivision (b) regarding policies to reduce VMT. The City of Ontario has adopted the following thresholds of significance related to VMT for land use plans:

The San Bernardino Traffic Analysis Model (SBTAM) forecast of total daily VMT/SP is the required method for estimating VMT.

- A significant impact would occur if the project VMT/SP (for the land use plan) exceeds the Citywide average for service population under General Plan Buildout Conditions.
- A significant impact would occur if the project caused total daily VMT/SP within the City to be higher than the no project alternative under cumulative conditions.

As shown in **Table 2**, the OD VMT/SP for both Planning Areas 30-34 and for the total Project is lower than the Citywide average OD VMT per service population under General Plan Buildout Conditions. Therefore, the Project is forecast to result in a **less-than-significant** project-level transportation impact related to VMT.

Since the Project is consistent with the General Plan land use, there is no difference between the Future No Project and Future With Project conditions and therefore there is no forecast change in daily VMT within the City under cumulative conditions. Therefore, the Project is forecast to result in a **less-than-significant** cumulative transportation impact related to VMT.

### T-3 Assessment

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). The City of Ontario has adopted



engineering standards to ensure consistency in the geometric design of their mobility facilities. Additionally, all plans undergo an extensive review process at the City to ensure consistency with these adopted standards. This impact is considered **less than significant**.

#### **T-4 Assessment**

The project would not result in inadequate emergency access. The project is proposing street widenings within the project limits, lane additions and traffic signals at adjacent and surrounding intersections that access the site, as identified in the Level of Service (LOS) assessment. With the proposed improvements, the project is anticipated to provide roadway capacity sufficient to support emergency evacuation scenarios. Therefore, this impact is considered **less than significant**.

#### **Conclusion**

The Project proposes increased density as compared to the approved Specific Plan but consistent with the City's General Plan. Densification in urban areas is a strategy promoted by the State to reduce VMT. VMT estimates were prepared that indicate the proposed project has a lower VMT/SP than the Citywide average OD VMT per service population under General Plan Buildout Conditions. The Project is also consistent with the General Plan land use and therefore is not forecast to change daily VMT within the City under cumulative conditions. Therefore, the Project is anticipated to result in a **less than significant** transportation impact. The Project is also anticipated to result in a **less-than-significant** impact related to consistency with regional plans, design, and emergency evacuation.



## Attachment A

**Attachment A: Proposed and Approved Specific Plan Land Use Summaries**

Planning Area	Apporved Land Use	Proposed Land Use	Net Difference
1	432 DUs	432 DUs	0
2	87 KSF of Commercial/Retail Space	87 KSF of Commercial/Retail Space	0
3	186 DUs	186 DUs	0
4	88 DUs	88 DUs	0
5	68 DUs	68 DUs	0
6	67 DUs	67 DUs	0
7	65 DUs	65 DUs	0
8	46 DUs	46 DUs	0
9	69 DUs	69 DUs	0
10	57 DUs	57 DUs	0
11	5.7 Net Acres of Recreational Park	5.7 Net Acres of Recreational Park	0
12	53 DUs	53 DUs	0
13	75 DUs	75 DUs	0
14	6.3 Net Acres of Recreational Park	6.3 Net Acres of Recreational Park	0
15	14.6 KSF Reccerational Community Center	14.6 KSF Reccerational Community Center	0
16	41 DUs	41 DUs	0
17	56 DUs	56 DUs	0
18	800-Student Elementary School	800-Student Elementary School	0
19	61 DUs	61 DUs	0
20	67 DUs	67 DUs	0
21	48 DUs	48 DUs	0
22	79 DUs	79 DUs	0
23	82 DUs	82 DUs	0
24	75 DUs	75 DUs	0
25	102 DUs	102 DUs	0
26	102 DUs	102 DUs	0
27	73 DUs	73 DUs	0
28	121 DUs	121 DUs	0
29	108 DUs	108 DUs	0
30	110 DUs	176 DUs	66 DUs
31	87 DUs	176 DUs	90 DUs
32	<u>163</u> <sup>2</sup>	671 DUs	508 DUs
33	<u>163</u> <sup>2</sup>	644 DUs	481 DUs
34	<u>451-Student School</u> <sup>2</sup>	1,200-Student Middle School/Junior High	749 - Students

Notes:

1 DUs = Dwelling Units

2 PAs 32-34 do not exist under the Approved Specific Plan. Underlined values represent Approved General Plan land use assumptions.

Source: Fehr & Peers, 2022.