

VEHICLE MILES TRAVELED ANALYSIS

MENIFEE VALLEY SPECIFIC PLAN

MENIFEE

RIVERSIDE COUNTY, CALIFORNIA

LSA

October 2023

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RIVERSIDE COUNTY, CALIFORNIA**

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1.0 EXECUTIVE SUMMARY

The proposed Menifee Valley Specific Plan divides 590.3 acres of land into 13 planning areas (PAs). Overall, the project includes 1,328 single-family residential dwelling units (DUs), 390 multifamily residential DUs, one elementary school with 750 students, 5,510,000 square feet (sf) of industrial uses, 560,000 sf of retail, 120,000 sf of public facility uses, and a sports park that includes a 54,000 sf aquatic sports center and other sports amenities. Additionally, based on the project description, the industrial uses are being proposed to be developed as follows:

- 50 percent high-cube fulfillment center warehouse – non-sort
- 5 percent high-cube cold storage warehouse
- 15 percent high-cube fulfillment center warehouse – sort
- 15 percent high-cube parcel hub warehouse
- 15 percent light industrial land uses

The proposed project is anticipated to be built in three phases. Phase 1 includes PAs 1, 2, 7, 11, and 12 and is anticipated to be completed by year 2025. Phases 2 and 3 include PAs 3, 4, 5, 6, 9, 10, and 13. Phases 2 and 3 are anticipated to be completed by year 2026.

The project will extend McLaughlin Road from Menifee Road to Briggs Road. It should be noted that the project will not extend Matthews Road/Case Road between Menifee Road and Briggs Road along the southern border of the project site.

Access to the project site will be provided at project driveways along Menifee Road, State Route 74 (SR-74), and Briggs Road. The project land use plan is shown in Figure 1-1.

The City adopted “City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled” in June 2020, which were updated in January 2022 (guidelines). The updated guidelines from January 2022 have been used in the evaluation of this project. The guidelines include multiple screening criteria for land use projects. However, given the project is a specific plan, none of the screening criteria are applicable to the project. As such, the project cannot be screened out of vehicle miles traveled (VMT) analysis and hence a detailed VMT analysis was prepared for the project. The City’s guidelines recommend use of the Riverside County Model (RIVCOM) for VMT analysis of non-screened land use projects.

Based on the VMT analysis, the project will have a significant and unavoidable transportation impact under the California Environmental Quality Act (CEQA). Therefore, the project is required to identify mitigation measures that will offset the project’s VMT impact. Project design features such as pedestrian, bicycle infrastructure, and transit improvements that promote use of alternative travel modes can be accounted for project VMT reduction. Non-motorized improvements, Transportation Demand Management (TDM) measures, and strategies aim to promote overall mobility with the goal of reducing the number of single-occupancy vehicle trips and reducing greenhouse gas emissions. Implementation of the project design features identified in this analysis may result in a reduction of the project’s VMT by approximately up to 7.3 percent. Additional VMT reduction can be achieved with any potential mitigation measures that the project may implement. Potential and

applicable mitigation measures have been described in the VMT Reduction Measures section of this report. The proposed design features and mitigation measures should be monitored for their usage and effectiveness. The project design features and mitigation measures can help offset some of the VMT impacts of the project but will not reduce the impact to less than significant.

1.1 LIST OF CHAPTER 1.0 FIGURE

- Figure 1-1: Conceptual Land Use Plan

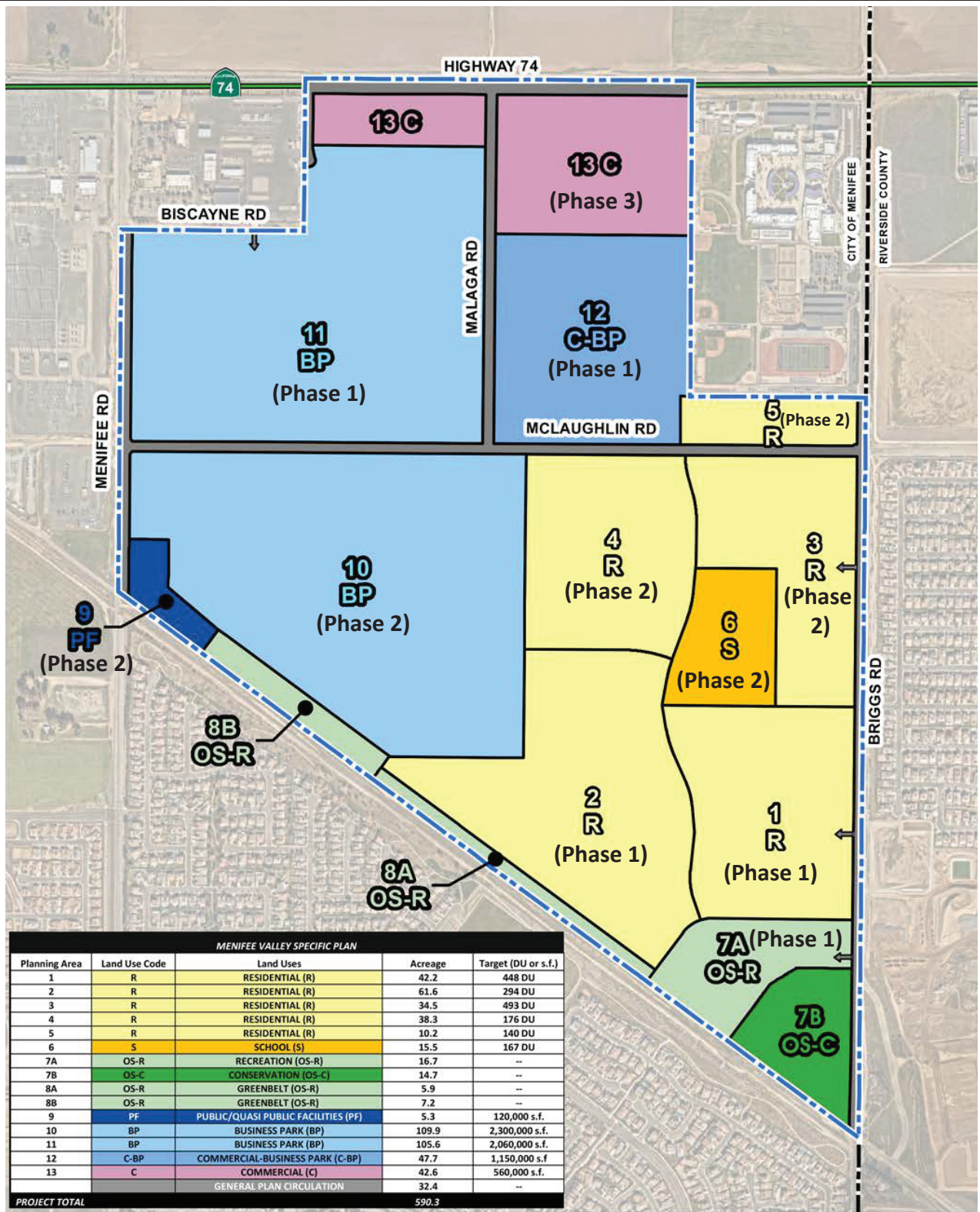


FIGURE 1-1

LSA



Menifee Valley Specific Plan Vehicle Miles Traveled Analysis

SCALE: Not to Scale

Conceptual Land Use Plan

2.0 VEHICLE MILES TRAVELED ANALYSIS

2.1 BACKGROUND

On December 28, 2018, the California Office of Administrative Law cleared the revised CEQA guidelines for use. Among the changes to the guidelines was removal of vehicle delay and level of service from consideration under CEQA. With the adopted guidelines, transportation impacts are to be evaluated based on a project's effect on VMT.

The City adopted "City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled" in June 2020, which were updated in January 2022 (guidelines). The guidelines updated in January 2022 have been used in the evaluation of this project. The guidelines include multiple screening criteria for land use projects. However, given the project is a specific plan, none of the screening criteria are applicable to the project. As such, the project cannot be screened out of VMT analysis and hence a detailed VMT analysis was prepared for the project. The City's guidelines recommend use of RIVCOM for VMT analysis of non-screened land use projects. RIVCOM 3.51 is the most recent version of the regional travel demand mode. However, the Notice Of Preparation (NOP) of the Environmental Impact Report (EIR) for the project was submitted in March 2022. At the time of NOP submittal, the RIVCOM version available was version 3.0 which was used for the project VMT analysis.

2.2 METHODOLOGY

The proposed project, as described above, is a mixed-use project consisting of multiple land use types. The guidelines establish VMT per service population as the VMT evaluation metric for land use projects. The service population includes total residential population, employment, and any consumers for uses such as commercial land use, hotel, medical office, etc. The entire Riverside County is identified as the "region," and the General Plan Buildout has been identified as the comparison threshold for land use projects based on the City's guidelines. The guidelines also include a numerical value of 33.6 as the County of Riverside General Plan Buildout VMT per service population or threshold. Therefore, based on the guidelines, the project will have a significant impact if the project VMT per service population is greater than 33.6 (County of Riverside General Plan Buildout VMT per service population).

2.2.1 Project Traffic Analysis Zone Update

In order to estimate project specific VMT, the project needs to be isolated in the travel model. A project could be isolated in a travel model by creating a project specific traffic analysis zone (TAZ). However, the RIVCOM Model does not include the capability to conduct TAZ splits or add new TAZs. The model consists of empty zones (without any socioeconomic data/development) for both base (2018) and forecast (2045) years. Therefore, empty zones from the project vicinity were borrowed to incorporate the project into the model in isolated TAZs. Each planning area of the specific plan was included in a separate TAZ. Additionally, LSA obtained cumulative project information from the City and multiple adjacent jurisdictions where the project is anticipated to add 50 or more peak hour trips. The RIVCOM forecast (2045) socioeconomic data were verified to determine whether these cumulative projects were appropriately included in the model. In case it was identified that the

RIVCOM forecast (2045) scenario did not include these cumulative projects, these projects were manually added into RIVCOM for purposes of the project VMT analysis under forecast (2045) conditions.

RIVCOM is a socioeconomic data based model. Therefore, project land uses were converted into model socioeconomic data categories. Residential dwelling units were input into the model as households by type (single family/multifamily), and non-residential land uses were converted into model employment categories using appropriate regional conversion factors. Detailed project land uses and equivalent number of residential units and employees are included in Appendix A.

2.2.2 Model Runs and Project VMT Estimation

Model runs were conducted with updated model inputs after incorporating the project land uses as described above. Outputs from the model were used to estimate project VMT per service population. Project VMT per service population was estimated from RIVCOM runs consistent with the methodology recommended in the guidelines. The Origin-Destination (O-D) method was used to estimate project VMT as recommended in the guidelines. As such, project-generated VMT was extracted from the RIVCOM runs using O-D trip matrices and by multiplying them with the final assignment skim matrices. The extracted project O-D VMT was divided by the estimated project service population (population + employment) to develop the project VMT per service population for the modeling scenarios. It should be noted that the O-D VMT includes VMT from all vehicles including trucks.

The guidelines also recommend evaluation of a project's effect on VMT in addition to project generated VMT. A project's effect on VMT is defined as roadway link-level VMT per service population within the Citywide boundary. The project will have a significant impact for the project's effect on VMT if the Citywide link level VMT per service population in the plus project condition increases compared to the no project condition.

Daily assignment volumes were used to estimate the total link-level daily VMT for all links within the City boundary for all modeling scenarios. Total link-level daily VMT was divided by the Citywide service population to estimate Citywide link-level VMT per service population for the respective scenarios.

2.3 VMT ANALYSIS

2.3.1 Project Generated VMT Impact

Table 2-A summarizes the project generated VMT per service population for all project planning areas (13 planning areas). This table reports the project's VMT per service population for both base (2018) and buildout (2045) scenarios compared with Riverside County General Plan Buildout VMT per service population (threshold) as identified in the guidelines. As shown in Table 2-A, the project's VMT per service population is 20.3 percent higher and 11.6 percent higher than the threshold in the base year and buildout scenarios, respectively. Total project OD VMT is lower in 2045 than in 2018. As the region around the project gets developed, into the future, these new developments provide intervening opportunities for the project trips. For example, while residents from the project are traveling farther to work in 2018, as the area around the project develops,

these trips may get diverted to the new areas near the project reducing trip length and as such the VMT. This trend is typical in most areas, especially areas with growth potential, to have lower VMT in the future compared to existing/base scenario. As indicated before, the Riverside Countywide General Plan Buildout VMT per service population was obtained from the guidelines document. As can be seen from the table below, based on the City's guidelines, the project will have a significant VMT impact for project generated VMT.

A detailed VMT calculation of project generated VMT is included in Appendix B.

2.3.2 Project's Effect on VMT

As indicated before, the City's guidelines also require evaluation of a project's effect on VMT by comparing link-level VMT per service population for the Citywide boundary between no project and with project conditions. Table 2-B summarizes the base scenario and forecast scenario no project and with project Citywide VMT per service population for the City. As shown in Table 2-B, the with project regional link-level VMT per service population is lower than the corresponding no project metric for both base and forecast scenarios. Therefore, the project does not have a significant impact for the project's effect on VMT.

2.4 VMT REDUCTION MEASURES – PROJECT DESIGN FEATURES AND MITIGATION MEASURES

As shown in Table 2-A, the project's VMT per service population is 20.3 percent higher and 11.6 percent higher than the threshold in the base year and buildout scenarios, respectively. When a lead agency identifies a significant CEQA impact, the agency must identify feasible mitigation measures in order to avoid or substantially reduce that impact. Therefore, VMT reduction of 20.3 percent (base scenario as conservative) is required to reduce the project VMT impact to less than significant. VMT impacts can be mitigated through behavioral changes in travel/commute patterns. Enforcement of mitigation measures will be subject to the mitigation monitoring requirements under CEQA, as well as the regular police powers of the agency. These measures can also be incorporated as a part of plans, policies, regulations, or project design features. Project design features that encourage mode shift from automobiles to transit or non-motorized modes can therefore help reduce project VMT as well. Typically, VMT reduction and benefits from these project design features are not accounted in the project VMT calculations conducted using the regional travel demand model (RIVCOM). Therefore, VMT reduction credit can be accounted for these design features similar to VMT mitigation measures to help reduce the project's VMT impact. As such, the project includes extensive active transportation amenities as project design features as described in "Mobility and Infrastructure, Section 3" of the draft specific plan document. Following is a detailed description of both project design features and mitigation measures and the corresponding potential VMT reduction that could be achieved with implementation of these measures.

2.4.1 Project Design Features

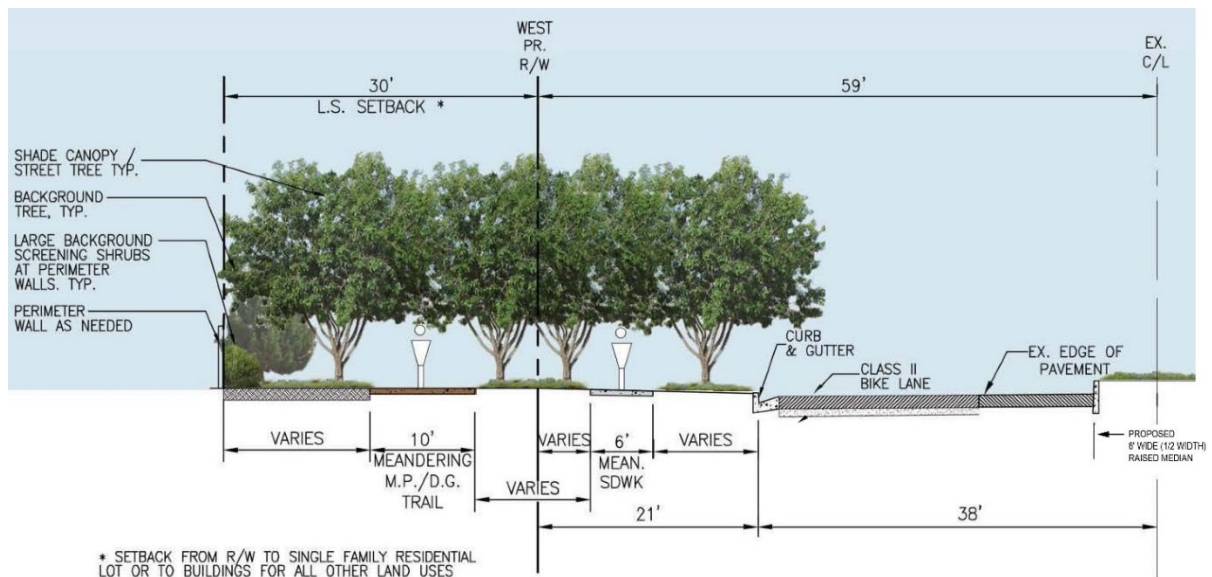
Extensive active transportation amenities included as part of the specific plan will likely encourage the community to shift its mode of transportation, especially for short trips. The change in mode share could reduce project vehicle trips and thus project vehicle VMT. The VMT reduction possible due to these project design features has been evaluated using the California Air Pollution Control

Officers Association’s (CAPCOA) “Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity – Designed for Local Governments, Communities, and Project Developers” dated December 2021.

The specific plan will be designed with greenbelts, sidewalks, and bicycle trail system that would provide ease of mobility throughout the community. Connectivity will be provided to and through the residential planning areas, as well as to the parks, amenity areas, the elementary school site, civic facilities, and pedestrian and bicycle routes extending beyond the specific plan’s boundary. Sidewalk connectivity is ensured between the Business Park, Commercial Business Park, and Commercial planning areas as well. The non-vehicular network ensures that residents, employees, and visitors have opportunities to travel by foot and bike in different settings. As such, the following project design features could be attributed to potential VMT reduction for the project:

- Pedestrian Infrastructure/Improvements:** An important element of the specific plan is a system of interconnecting pedestrian-friendly sidewalks and walking trails that connect neighborhoods and encourage exercise and walkability within the community and beyond its borders. This system will link the residential homes to neighborhood amenities, civic uses, and the walking trail on and around Granite Hill. The sidewalks along residential streets will provide a safe on-foot route to the K-5 school site expected in Planning Area 6. The meandering roadside trail along the west side of Briggs Road will make a safe connection to Heritage High School located at the intersection of Briggs Road and SR-74. The following graphic provides a conceptual cross-section illustration of Briggs Road that would be implemented as part of the project.

Briggs Road Streetscape Concept



The pedestrian system primarily includes greenbelt trails, multi-use meandering trails, meandering sidewalks, traditional linear sidewalks, and a nature trail. The positioning and placement of the pedestrian facilities in greenbelts, roadway parkways, open space, and other

areas of the community is shown on “Figure 3-6 Pedestrian Mobility Plan” of the Menifee Valley Specific Plan Document, “Chapter 3 – Mobility and Infrastructure,” dated June 3, 2022. This figure is included in Appendix C.

Meandering Multi-Purpose Roadside Trails are designed to traverse in and adjacent to roadway rights-of-way to separate walkers from vehicles and to provide an enjoyable mobility path that is more inviting and welcoming to outdoor exercise than a traditional sidewalk. These trails consist of a DG surface, are 10 feet wide, and can occur inside or outside of the public roadway right-of-way or weave partially in and partially out of the right-of-way extending into privately owned green space that parallels the road.

Meandering sidewalks that are non-contiguous to roadway curbs are located in the public right-of-way and provide a pleasing walking environment that separates pedestrians from vehicular travel. This sidewalk type ranges from 5 feet to 6 feet in width.

Traditional, linear, curb-adjacent sidewalks are provided along roads in the Business Park, Commercial-Business Park, and Commercial areas where the roadway parkways are more utilitarian than recreational. These sidewalks range from 5 feet to 6 feet wide.

These extensive pedestrian design features included in the specific plan design could help increase active transportation mode share in the area. As indicated previously, to estimate the reduction in vehicular VMT due to these design features, the CAPCOA manual was utilized. Specifically, CAPCOA transportation measure “T-18: Provide Pedestrian Network Improvement” was deemed applicable to estimate the VMT reduction due to project pedestrian features. According to CAPCOA, providing sidewalks and an enhanced pedestrian network encourages people to walk instead of drive. This mode shift results in a reduction in VMT and greenhouse gas (GHG) emissions.

The CAPCOA measure uses existing total sidewalk length in the vicinity, total sidewalk length with proposed project improvements, and an elasticity of household VMT with respect to the ratio of sidewalks-to-streets. Default elasticity from CAPCOA was used to estimate the VMT reduction.

Existing sidewalk length and proposed project sidewalk lengths in the area were measured. Proposed project sidewalk lengths were obtained from “Figure 3-6 Pedestrian Mobility Plan” of the Menifee Valley Specific Plan Document, “Chapter 3 – Mobility and Infrastructure,” dated June 3, 2022. Currently, there are 8 miles of sidewalks in the project vicinity. The project proposes to add approximately 44.8 miles of sidewalks. Sidewalk length was measured on both sides of the street. For example, if one 0.5-mile-long street has full sidewalk coverage, the sidewalk length would be 1.0 mile. If there is sidewalk only on one side of the street, the sidewalk length would be 0.5 mile. Based on CAPCOA estimates, the pedestrian design features have a potential to reduce up to 6.4 percent of the project VMT. Detailed calculations of VMT reduction due to this measure have been included in Table 2-C.

According to CAPCOA T-18,

$$A = \left(\frac{C}{B} - 1 \right) * D$$

- A = Percent reduction in GHG emissions or VMT from household vehicle travel in plan/community*
- B = Existing sidewalk length in study area (miles)*
- C = Sidewalk length in study area with measure/project (miles)*
- D = Elasticity of household VMT with respect to the ratio of sidewalks-to-streets (-0.05 default)*

Therefore, including the sidewalk lengths in the above formula may result in a reduction in project VMT as shown below.

$$A = \max \left(-0.064, \left(\frac{52.8}{8} - 1 \right) * -0.05 \right)$$

$$A = -0.064$$

- Bicycle Infrastructure/Improvements:** Bicycle travel routes are provided as project design features and connect to the City of Menifee’s bikeway network. The positioning and placement of the proposed bicycle mobility improvements in the community is shown on “Figure 3-7 Bicycle Mobility Plan” of the Menifee Valley Specific Plan Document, “Chapter 3 – Mobility and Infrastructure,” dated June 3, 2022. The project includes Class I and Class II bicycle facilities. Also, project non-residential land uses - Business Park, Commercial-Business Park, Commercial, School, and Park uses will provide bicycle racks and/or storage facilities. The proposed project bicycle infrastructure/improvements are included in Appendix C.

Similar to pedestrian facilities, these extensive bicycle design features included in the specific plan could help increase active transportation mode share in the area. The CAPCOA manual was utilized to estimate the reduction of project VMT due to proposed bicycle improvements. Specifically, CAPCOA transportation measure “T-19A: Construct or Improve Bike Facility” was deemed applicable to estimate the VMT reduction due to project bicycle features. According to the measure, providing bicycle infrastructure helps to improve biking conditions within an area. This encourages a mode shift on the roadway parallel to the bicycle facility from vehicles to bicycles, displacing VMT and thus reducing GHG emissions.

The CAPCOA measure T-19 evaluates each bike improvement individually. Therefore, “Figure 3-7 Bicycle Mobility Plan” was used to identify attributes such as bicycle facility type (Class I or Class II) and length of proposed facility. The measure also requires data such as the Annual Average Daily Traffic (AADT) on the parallel roadway facility, number of key destinations accessible by the bike facility, percentage of plan VMT on the parallel roadway, existing average bike trip length, existing average vehicle trip length, and number of annual days of use of the facility. Data from the RIVCOM project model runs were used to estimate the AADT and percent plan VMT on the parallel roadway. Defaults for Riverside County, Riverside-San Bernardino-Ontario

areas from CAPCOA were used for other variables such as average bike and vehicle trip lengths and number of annual days of facility utilization.

According to CAPCOA T-19,

$$A = -B * \left(\frac{\left(\frac{F}{I} \right) * (C + D) * E * G}{H} \right)$$

- A = Percent reduction in GHG emissions or VMT from displaced vehicles on roadway parallel to bicycle facility*
- B = Percent of plan/community VMT on parallel roadway*
- C = Active transportation adjustment factor*
- D = Credits for key destinations near project*
- E = Growth factor adjustment for facility type*
- F = Annual days of use of new facility*
- G = Existing regional average one-way bicycle trip length*
- H = Existing regional average one-way vehicle trip length*
- I = Days per year*

Based on CAPCOA estimates, the project bicycle design features have a potential to reduce up to 0.5 percent of the project VMT. Detailed calculations of VMT reduction due to this measure have been included in Appendix B.

The project also proposes inclusion of End-of-Trip bicycle facilities such as bike parking at multiple locations. According to CAPCOA measure “T-10: Provide End-of-Trip Bicycle Facilities,” provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions. Based on the information provided by the project, a total of 6 such facilities were assumed. The following is the list of locations of these end-of-trip bicycle facilities:

- 1 in PA 6 for school
- 1 in PA 10 for Business Park
- 1 in PA 11 for Business Park
- 1 in PA 12 for Commercial Business Park
- 2 in PA 13 for Commercial (both sides of Malaga Road)

According to CAPCOA T-10,

$$A = \left(\frac{C * (E - (B * E))}{D * F} \right)$$

A = Percent reduction in GHG emissions or VMT from employee project/site commute VMT

B = Bike mode adjustment factor

C = Existing bicycle trip length for all trips in region

D = Existing vehicle trip length for all trips in region

E = Existing bicycle mode share for work trips in region

F = Existing vehicle mode share for work trips in region

Default parameters for Riverside County, Riverside-San Bernardino-Ontario areas from CAPCOA were used for all of the variables in this measure. The bike mode adjustment factor (variable B) varies depending on the provision of shower and lockers. To be conservative, it was assumed that the project only includes bike parking and does not include facilities such as showers and lockers. Based on CAPCOA estimates, the project end-of-trip bicycle facilities at all 6 locations have a combined potential to reduce up to 0.4 percent of the project VMT. Detailed calculations of VMT reduction due to this measure have been included in Table 2-C.

In summary, all the proposed project design features could potentially reduce the project VMT by up to 7.3 percent. Additionally, the project proposes to implement the following mitigation measures to further reduce the project’s VMT impact.

2.4.2 Mitigation Measures

VMT reduction due to the proposed project design features will not reduce the project VMT to a less than significant impact. Therefore, the project may implement the following VMT mitigation measures that could help further reduce project VMT. Similar to project design features, potential VMT reduction that can be achieved by the mitigation measures has been identified using the CAPCOA manual.

- Provide Electric Vehicle (EV) Parking and EV Charging Infrastructure:** Accessible EV parking and preferred parking for EVs at the project site will encourage the use of EVs. Conductive or inductive EV charging stations installed at EV parking spots provide incentives for using EVs to access the project. Designating EV parking with charging stations at favorable locations (e.g., near main entrances or major access points) can raise awareness about using EVs to reduce GHG emissions. The latest California Green Building Standards (CALGreen), California Building Code, requires provision of electric vehicle charging infrastructure for all new construction projects such as apartments, condos, hotels, and motels. While it is understood that provision of electric charging stations might not reduce VMT, it will reduce GHG, which can be considered equivalent to reduction in VMT. The project may provide EV parking and EV charging infrastructure for both residential and non-residential land use areas of the project. CAPCOA transportation measure “T-14: Provide Electric Vehicle Charging Infrastructure” could be used to quantify VMT reduction due to this mitigation measure. According to CAPCOA, provision of EV charging infrastructure in

addition to the CALGreen requirements has potential to reduce project VMT and thus can be considered a mitigation measure. Provision of EV charging infrastructure has a potential to achieve a maximum VMT reduction of up to 11.9 percent. The amount of VMT reduction from this measure is dependent on the number of EV charging stations that may be provided by the project (in addition to CALGreen requirements). However, implementation of this mitigation measure can be considered when individual planning areas within the specific plan are developed.

- **Unbundle Residential Parking Costs from Property Cost:** The project includes development of multifamily dwelling units. The project could propose to provide 1 parking stall for each apartment at no cost. However, tenants may be charged a monthly fee in case they desire an extra parking space. According to CAPCOA, an increase in costs of owning a vehicle will decrease or discourage vehicle ownership and therefore reduces VMT and GHG. CAPCOA transportation measure “T-16: Unbundle Residential Parking Costs from Property Cost” could be used to estimate the amount of VMT reduction that can be achieved by charging for the additional parking space. VMT reduction due to this measure will be dependent on the amount of potential fees that the project could charge the tenants for extra parking space. This measure has a potential to achieve a maximum of up to 15.7 percent reduction in VMT for the project’s multifamily use. However, implementation of this mitigation measure can be considered when individual planning areas within the specific plan are developed.

2.5 CONCLUSION

In conclusion, project design features and VMT mitigation measures aim to promote overall mobility with the goal of reducing VMT and reducing greenhouse gas emissions. Various project design features such as pedestrian and bicycle improvements proposed in the specific plan have potential to reduce the project vehicle VMT. The CAPCOA manual was used to estimate VMT reductions due to the proposed active transportation design features of the project. All the proposed active transportation design features of the project have a potential to reduce the project VMT by up to 7.3 percent.

Additionally, the proposed VMT mitigation measures could potentially reduce project VMT further. However, the VMT reduction due to the mitigation measures has not been quantified. Also, these measures can only be implemented at a project level when individual planning areas are developed within the specific plan. The proposed design features and mitigation measures should be monitored for their usage and effectiveness. The design features and mitigation measures can help offset some of the VMT impacts of the project but will not reduce the impact to a less than significant level. Therefore, the project will have a significant and unavoidable transportation impact under CEQA.

2.6 LIST OF CHAPTER 2.0 TABLES

- Table 2-A: Project and Regional VMT Per Service Population
- Table 2-B: Project’s Effect on VMT – City of Menifee
- Table 2 -C: Calculated VMT Reduction with Project Mitigation

Table 2-A: Project and Regional VMT Per Service Population

| Scenario Year | O-D VMT Per Service Population | | | |
|---------------|--|----------------------------|------------|--------------|
| | Menifee Valley Specific Plan (Project) | City of Menifee Threshold* | Difference | % Difference |
| 2018 | 40.4 | 33.6 | 6.81 | 20.3% |
| 2045 | 37.5 | 33.6 | 3.88 | 11.6% |

Source: RIVCOM 3.

* Threshold obtained from City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled, updated January 2022.

O-D = Origin-Destination

RIVCOM = Riverside County Model

VMT = vehicle miles traveled

Table 2-B: Project’s Effect on VMT – City of Menifee

| Description | With Project | Without Project |
|----------------------------|--------------|-----------------|
| 2018 | | |
| Roadway VMT | 1,781,171 | 1,713,640 |
| Service Population | 114,288 | 102,877 |
| VMT Per Service Population | 15.6 | 16.7 |
| 2045 | | |
| Roadway VMT | 2,456,378 | 2,380,652 |
| Service Population | 166,866 | 155,455 |
| VMT Per Service Population | 14.7 | 15.3 |

Source: RIVCOM 3.

RIVCOM = Riverside County Model

VMT = vehicle miles traveled

Table 2-C: Calculated VMT Reduction with Project Mitigation

| Mitigation Measure (Number corresponds to the 2021 CAPCOA Handbook) | Formula | Comments | Calculated Reduction in VMT (%) |
|---|---|--|---------------------------------------|
| Neighborhood Design (Maximum Reduction 10%) | | | |
| T-18: Provide Pedestrian Network Improvement | $A = ((C/B)-1) * D$, Where B = Existing sidewalk length in study area, C = Sidewalk length in study area with measure, and D = Elasticity of household VMT with respect to the ratio of sidewalks-to-streets (-0.05 constant) | Based on the survey, the project study area includes approximately 8 of sidewalk. The project proposes to add approximately another 44.8 miles of sidewalk/pedestrian access. $A = \max(-0.064, ((8+44.8)/8)-1)*-0.05$ $A = \max(-0.064, ((52.8/8)-1)*-0.05)$ $A = \max(-0.064, -0.28)$ $A = -0.064$ | 6.4% |
| T-19A: Construct or Improve Bike Facility | $A = -B * (((F/I) * (C+D) * E * G) / H)$, Where B = Percent of plan/community VMT on parallel roadway, C = Active transportation adjustment factor, and D = Credits for key destinations near project, E=Growth factor adjustment for facility type, F=Annual days of use of new facility, G=Existing regional average one-way bicycle trip length, H=Existing regional average one-way vehicle trip length, I=Days per year | Multiple bike facilities are included throughout the project area. VMT reduction was estimated separately for each of bike facilities given the parameters used in the formula. The parameters for VMT reduction included consideration of type of bike facility (Class I, II, III), volume and VMT on the parallel roadway, and accessibility to key destinations. Calculations for each individual bike facility are included in Appendix B. | 0.5% |
| T-10: Provide End-of-Trip Bicycle Facilities | $A = ((C * (E - (B * E))) / (D * F))$, Where B=Bike mode adjustment factor, C=Existing bicycle trip length for all trips in region, D=Existing vehicle trip length for all trips in region, E=Existing bicycle mode share for work trips in region, F=Existing vehicle mode share for work trips in region | Bike Mode adjustment factor is based on types of end-of-trip bicycle facilities. To be conservative only bike parking was assumed, therefore B = 1.78 Values for Riverside-San Bernardino-Ontario core statistical area were used for C, D, E, and F. C=2.2, D=11.7, E=0.4, F=95.3 $A = ((2.2 * (0.4 - (1.78 * 0.4))) / (11.7 * 95.3))$ $A = ((2.2 * (0.4 - 0.712)) / 1115.01)$ $A = (2.2 * -0.312) / 1115.01$ $A = -0.000616$ Six end-of-trip bike facilities were assumed for the project, therefore $A = 6 * -0.000616$ $A = -0.4$ | 0.4% |
| Total VMT Reduction from All Subsectors¹ | | | 7.3% |

Source: Handbook for Analyzing Greenhouse Gas Emission Reduction, Assessing Climate Vulnerabilities, and Advancing Health and Equity, California Air Pollution Control Officers Association (CAPCOA), December 2021.

¹Per CAPCOA total VMT reduction for multiple strategies within same subsector is calculated using the equation: $1 - (1-A) * (1-B) * (1-C) \dots$ where A, B, C are equal to individual mitigation strategy reduction percentages.

APPENDIX A

PROJECT RESIDENTIAL UNITS AND NUMBER OF EMPLOYEES

Appendix A VMT Worksheet - Menifee Valley Specific Plan Project Land Use and Socioeconomic Data

| Planning Area | Land Use Code | Detailed Land Use Description | Single-Family Residences | Multifamily Residences | K-12 STUDENT | Total Employment |
|---------------|---------------|---|--------------------------|------------------------|--------------|------------------|
| 1 | R | 448 DU Single-Family Residential | 448 | | | |
| 2 | R | 294 DU Single-Family Residential | 294 | | | |
| 3 | R | 461 DU Single-Family Residential | 461 | | | |
| 4 | R | 125 DU Single-Family Residential, 250 Multifamily Residential | 125 | 250 | | |
| 5 | R | 140 Multifamily Residential | | 140 | | |
| 6 | S | 750 Student Elementary School | | | 750 | 76 |
| 7A | OS-R | Sports Park with 54.0 TSF Aquatic Sports Center, 1 Soccer Field, 2 Tennis and Picketball Court, 1 Sand Volleyball Court, 1 Basketball Court, 2 baseball Fields, 1 Batting Cage, Picnic Shelters and other amenities | | | | 57 |
| 7B | OS-C | | | | | |
| 8A | OS-R | | | | | |
| 8B | OS-R | | | | | |
| 9 | PF | 120.0 TSF Public Facilities | | | | 136 |
| 10 | BP | 2,300.0 TSF Industrial Facilities including 1,150.0 TSF High-Cube Fulfillment Center Warehouse - Non-Sort, 115.0 TSF High-Cube Cold Storage Warehouse, 345.0 TSF High-Cube Fulfillment Center Warehouse - Sort, 345.0 TSF High-Cube Parcel Hub Warehouse, and 345.0 TSF Light Industrial uses | | | | 1,989 |
| 11 | BP | 2,060.0 TSF Industrial Facilities including 1,030.0 TSF High-Cube Fulfillment Center Warehouse - Non-Sort, 103.0 TSF High-Cube Cold Storage Warehouse, 309.0 TSF High-Cube Fulfillment Center Warehouse - Sort, 309.0 TSF High-Cube Parcel Hub Warehouse, and 309.0 TSF Light Industrial uses | | | | 1,782 |
| 12 | C-BP | 1,150.0 TSF Industrial Facilities including 575.0 TSF High-Cube Fulfillment Center Warehouse - Non-Sort, 57.5 TSF High-Cube Cold Storage Warehouse, 172.5 TSF High-Cube Fulfillment Center Warehouse - Sort, 172.5 TSF High-Cube Parcel Hub Warehouse, and 172.5 TSF Light Industrial uses. | | | | 995 |
| 13 | C | 560.0 TSF Retail | | | | 1,190 |
| 14 | PUC | | | | | |

Notes:

AC = Acres; DU = Dwelling Units; TSF = Thousand Square Feet

APPENDIX B

VMT CALCULATIONS



Appendix B
VMT Calculation Worksheet - Menifee Valley Specific Plan
Project VMT

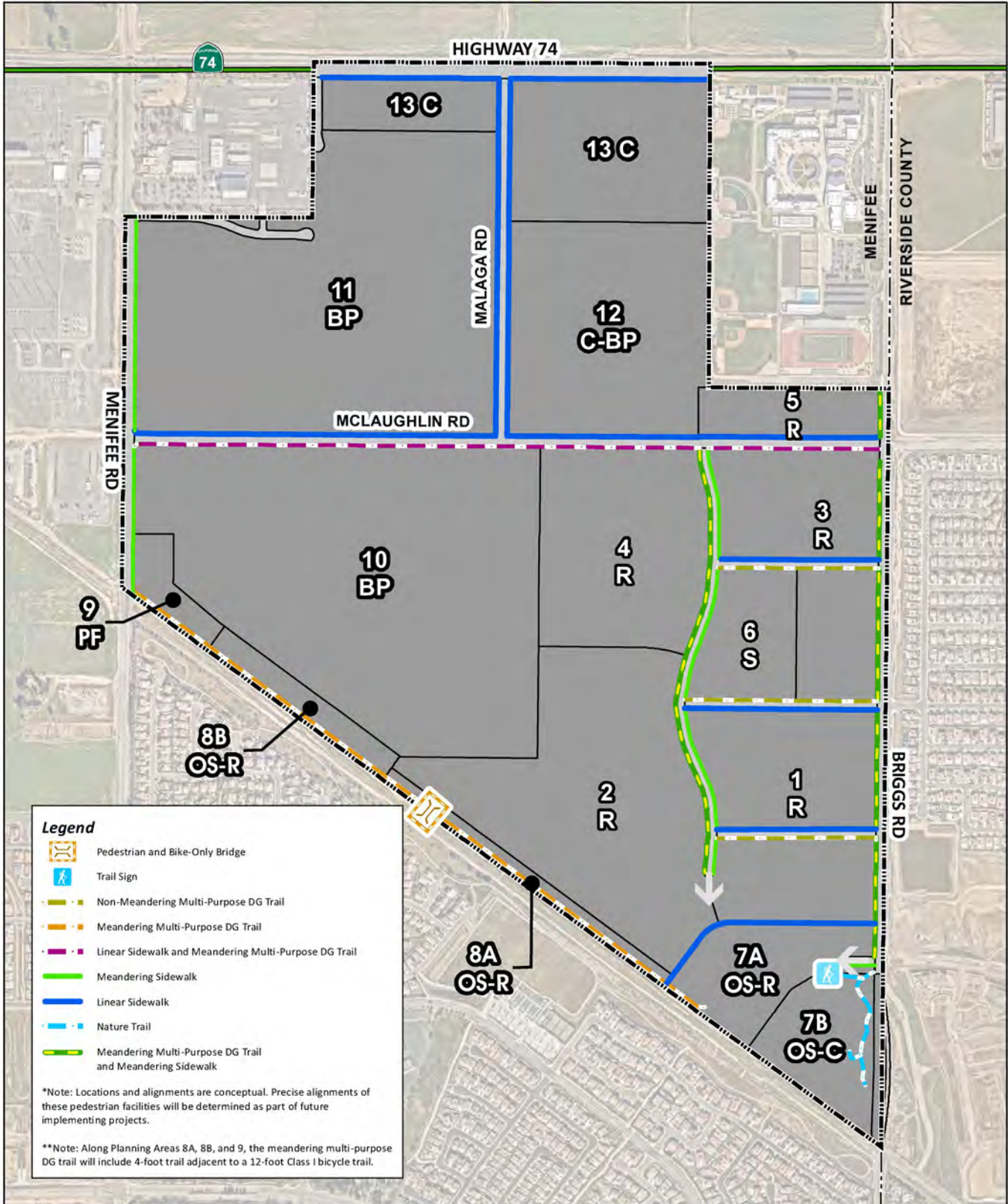
| 2018 | Menifee Valley Specific Plan (Project) | City of Menifee Threshold** |
|---|---|--|
| Population | 5,186 | |
| Employment | 6,225 | |
| Service Population | 11,411 | |
| OD VMT (auto + truck) | 461,139 | |
| OD VMT per service population (auto + truck) | 40.4 | 33.6 |

| 2045 | Menifee Valley Specific Plan (Project) | City of Menifee Threshold** |
|---|---|--|
| Population | 5,186 | |
| Employment | 6,225 | |
| Service Population | 11,411 | |
| OD VMT (auto + truck) | 427,734 | |
| OD VMT per service population (auto + truck) | 37.5 | 33.6 |

*: Threshold Obtained from *City of Menifee Traffic Impact Guidelines for Vehicle Miles Traveled*, updated January 2022.

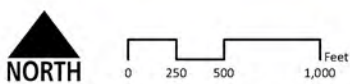
APPENDIX C

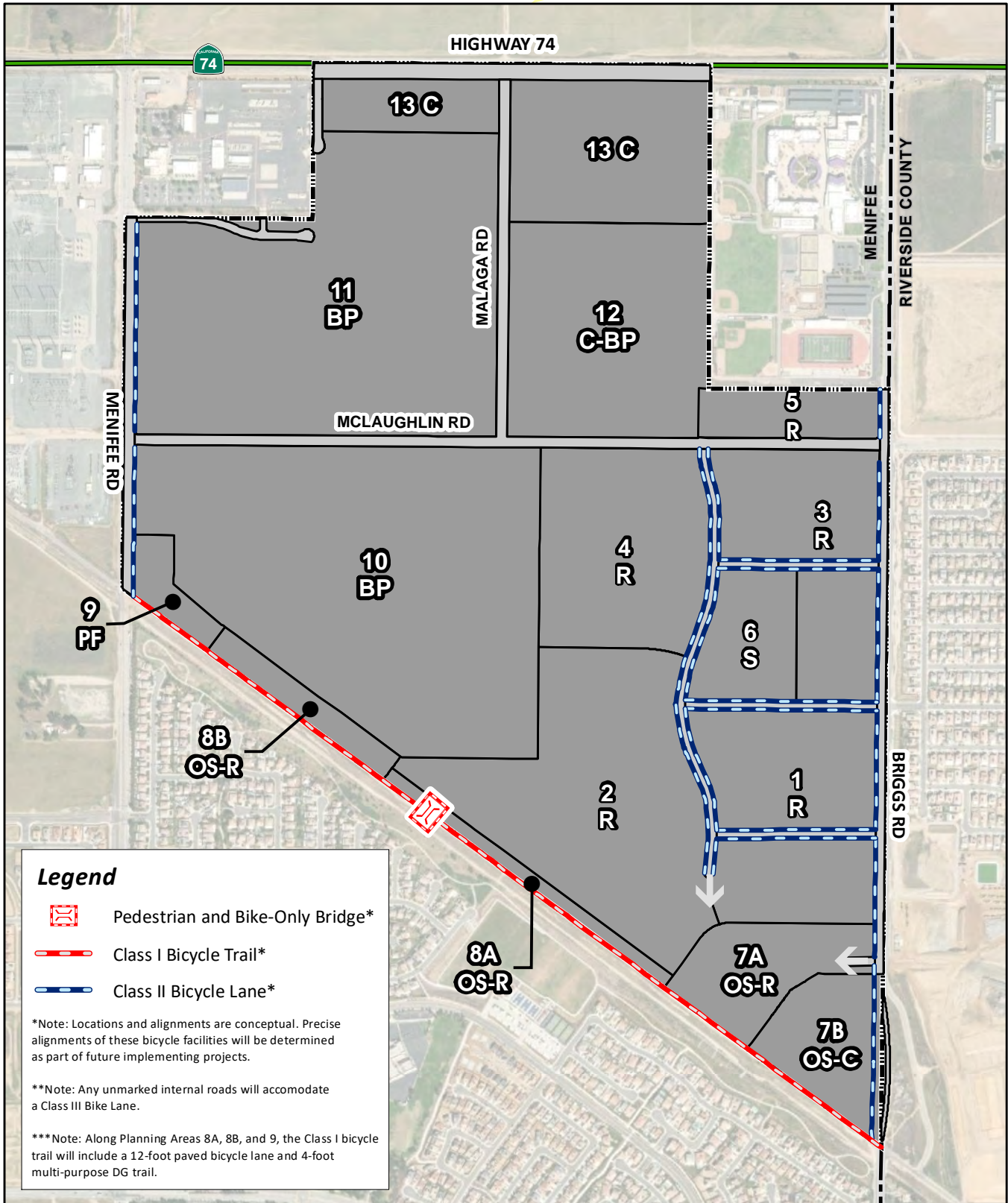
MENIFEE VALLEY SPECIFIC PLAN PEDESTRIAN AND BICYCLE MOBILITY PLAN



Source(s): ESRI, RCTLMA (2021), Nearmap (2022), Hunsaker & Associates (09-2021), Hunsaker & Associates (05-03-2022)

Figure 3-6





Source(s): ESRI, RCTLMA (2022), Nearmap (2022), The Galloway Group (12-10-2021), Hunsaker & Associates (05-03-2022)

Figure 3-7

