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MEMORANDUM

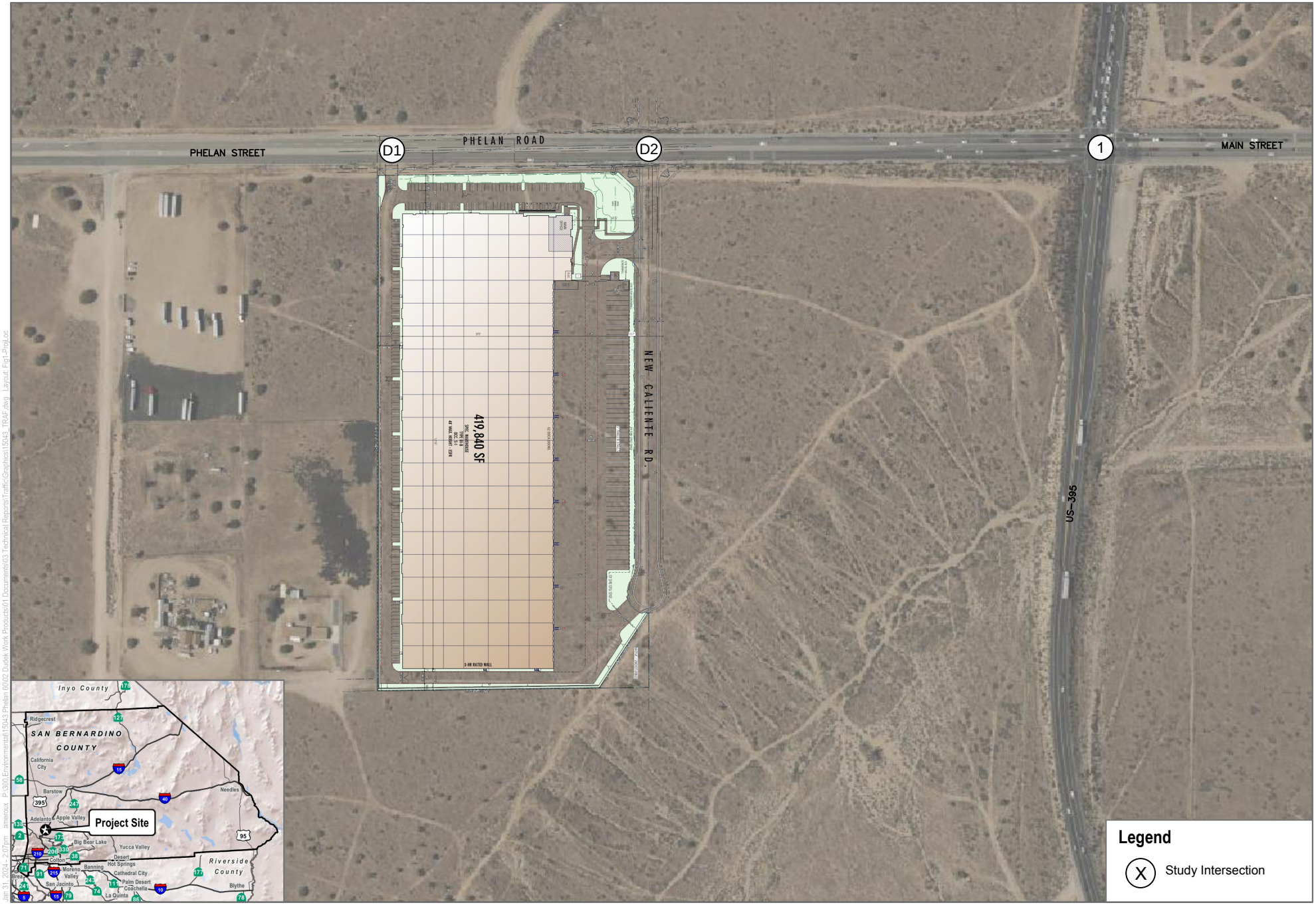
To:	Ryan Leonard, City of Hesperia Planning Department
From:	Lisa Valdez, Senior Transportation Planner
Subject:	Phelan 20 Industrial Warehouse
Date:	May 15, 2024
cc:	Chelsea Ohanesian, Project Manager, Dudek
Attachments:	A – Urban Crossroads VMT Analysis

Dudek has prepared the following transportation assessment for the proposed Phelan Warehouse Project (project). The Project includes the construction of an industrial warehouse building on an approximately 21.02-acre Project site generally located west of US Highway 395, east of Los Banos Avenue, and south of Phelan Road in the City of Hesperia (City) (Figure 1, Project Location). The transportation assessment has been prepared consistent with the requirements and policies from the *City of Hesperia's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS)*[1], the San Bernardino County Transportation Authority's (SBCTA) *Congestion Management Program* (CMP), and our recent experience with projects in the City. The following Technical Memorandum documents existing roadway, pedestrian, bicycle, and transit conditions; estimates the project trip generation; evaluates the proposed project site access; and provides a VMT analysis.

1.0 Project Description

The Project location is shown in Figure 1 and the conceptual site plan is shown in Figure 2. The project includes the construction of a speculative industrial warehouse totaling 419,840 square feet (SF) and associated improvements, including loading docks, truck and vehicle parking, and landscaped areas. Access to the site would be from US Highway 395 to Phelan Road. The Project would include improvements along Phelan Road, including frontage landscaping and pedestrian improvements. Access to the Project site would be provided from one driveway on the north side of the Project site on Phelan Road, and two driveways on the east side of the Project site along a new street that would be developed as part of the Project. The new street would connect to Phelan Road, resulting in a new intersection on Phelan Road. The Project would include paved passenger vehicle parking areas located north and west of the industrial/warehouse building, as well as tractor-trailer stalls and loading docks located on the east side of the building. In total, the Project would provide approximately 62 loading dock positions, approximately 57 tractor-trailer stalls, and 199 passenger vehicle parking spaces (including accessible spaces).

1 City of Hesperia. 2020. City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS). July 1.



SOURCE: Bing Maps; RGA 2023

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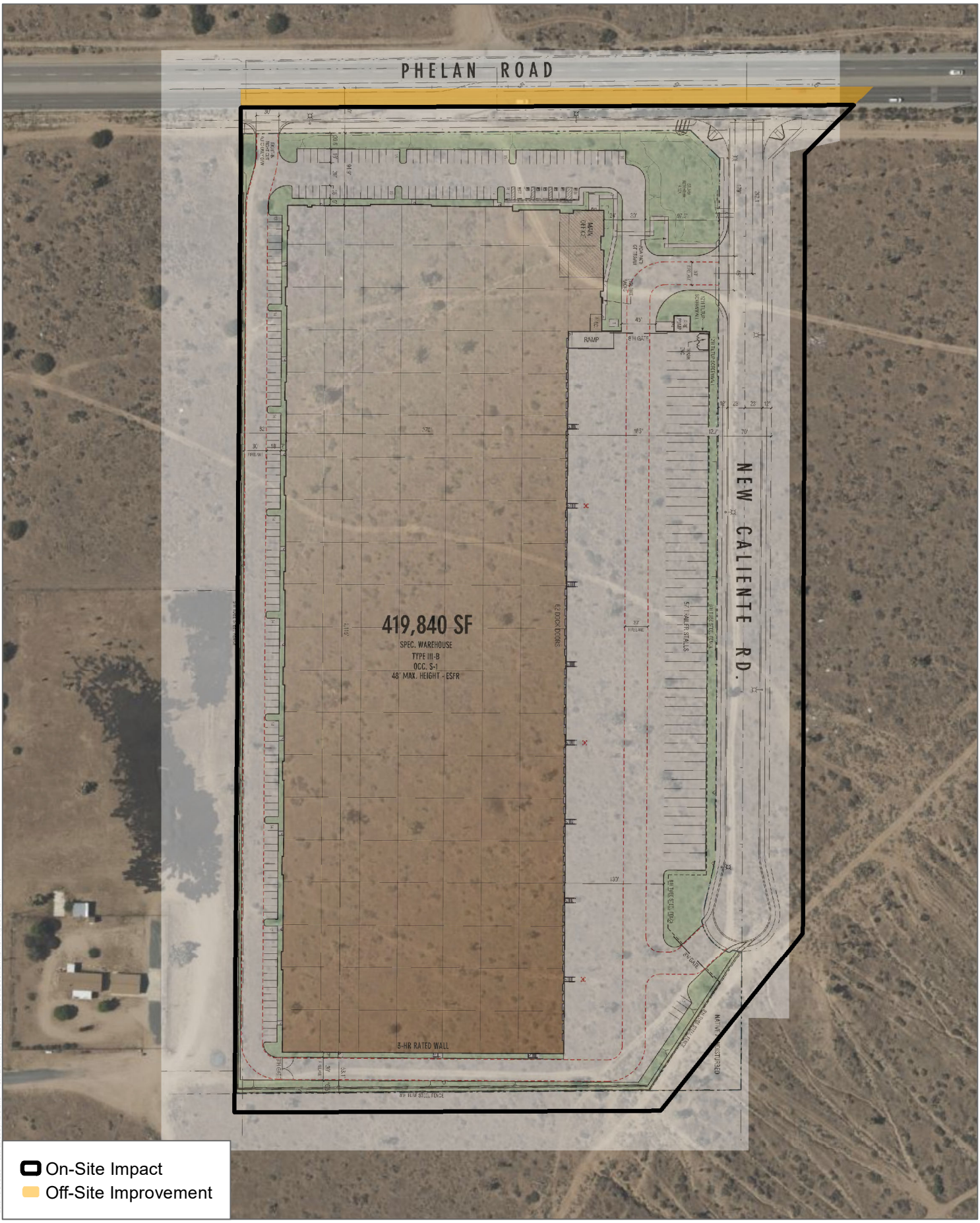
Figure 1

Project Location and Study Area

Phelan 20 Industrial



SOURCE: Bing Imagery 2022

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0 80 160 Feet

FIGURE 2

Site Plan

Phelan 20 Project

2.0 Existing Transportation Network

This section describes existing conditions within the study area. Characteristics are provided for the existing roadway, transit, bicycle and pedestrian facilities. The City's designated truck routes are shown on Figure 3.

2.1 Roadway Network

Interstate 15 (I-15) is a north-south, divided, four to eight-lane freeway located approximately one mile east of the project site. I-15 is a major interstate freeway that begins near the Mexico—US Border and extends to Alberta, Canada, and serves as a critical connection for many other regional roadways, freeways, and highways. Caltrans classifies I-15 as a designated truck route[2]. The posted speed limit is 65 miles per hour (MPH).

US Highway (Hwy) 395 is a north-south two-lane to six-lane, generally undivided highway located to the east of the project site. The highway's northern terminus is at the US-Canada border, while the southern terminus is at I-15 near Hesperia. The City of Hesperia classifies US Hwy 395 as a special street section from Joshua Tree Street/ US Hwy 395 off of I-15 towards the City's northern boundary at Smoke Tree Road. US Hwy 395 conveys local traffic to the I-15 freeway and provides access to cities in the region, including Adelanto and Phelan. Caltrans and the City of Hesperia classify US Hwy 395 as a designated truck route. Bike and pedestrian facilities are not located along this portion of the roadway. The posted speed limit is 55 MPH.

Phelan Road is an east-west, two to six-lane undivided roadway that borders the project site on the north. The City of Hesperia classifies Phelan Road as a major arterial roadway, and a truck route west of US Hwy 395[3]. East of US Hwy 395, Phelan Road transitions into Main Street. No bicycle and pedestrian facilities are located along this roadway. Bus stops for the Victory Valley Transit Authority's (VVTA) 21P and 21W buses are located along this roadway. The posted speed limit is 55 MPH.

Main Street is an east-west, two to six-lane roadway with raised medians and left-turn pockets located to the east of the project site. The City of Hesperia classifies Main Street as a major arterial roadway from US Hwy 395 to the I-15 northbound on-ramp, a special street section from I-15 northbound on-ramp to I Avenue, and an arterial roadway from I Avenue to the City limit[4]. Pedestrian facilities are generally located on both sides of the roadway. Bus stops for VVTA routes 25, 64, and 68 are also located along this roadway. The posted speed limit ranges from 50 to 55 MPH.

2.2 Transit System

The City of Hesperia is primarily served by bus services provided by Victor Valley Transit Authority (VVTA), which provides regional and local services throughout Victor Valley. VVTA provides local bus service for the communities of Adelanto, Apple Valley, Hesperia, Victorville, and unincorporated areas of San Bernardino County. VVTA operates five bus routes in Hesperia, providing bus connections between shopping centers and the Mall of Victor Valley, hospitals, schools and colleges, and residential areas. VVTA also offers paratransit services for persons with special

2 City of Hesperia. 2021. "Truck Routes." https://www.cityofhesperia.us/1432/Truck-Routes
3 City of Hesperia. 2019. *City of Hesperia General Plan Update.* Accessed July 19, 2021. https://www.cityofhesperia.us/DocumentCenter/View/15728/General-Plan-Update-August-2019
4 City of Hesperia. 2019. *City of Hesperia General Plan Update.* Accessed July 19, 2021. https://www.cityofhesperia.us/DocumentCenter/View/15728/General-Plan-Update-August-2019

needs on any paved street within Hesperia as long as it is within their service boundaries. The VVTA paratransit services do not travel a fixed route and provide a flexible alternative to the fixed bus routes.

Routes 21P/W, 25, 64, and 68, shown in Figure 4, Existing Transit Routes, are the closest bus routes to the project site, with bus stops on Main Street, Escondido Avenue, and Live Oak Street[5], as described below. The Cataba Road and Main Street bus stop would serve as the nearest bus stop to the project site, located approximately one mile east of the project site.

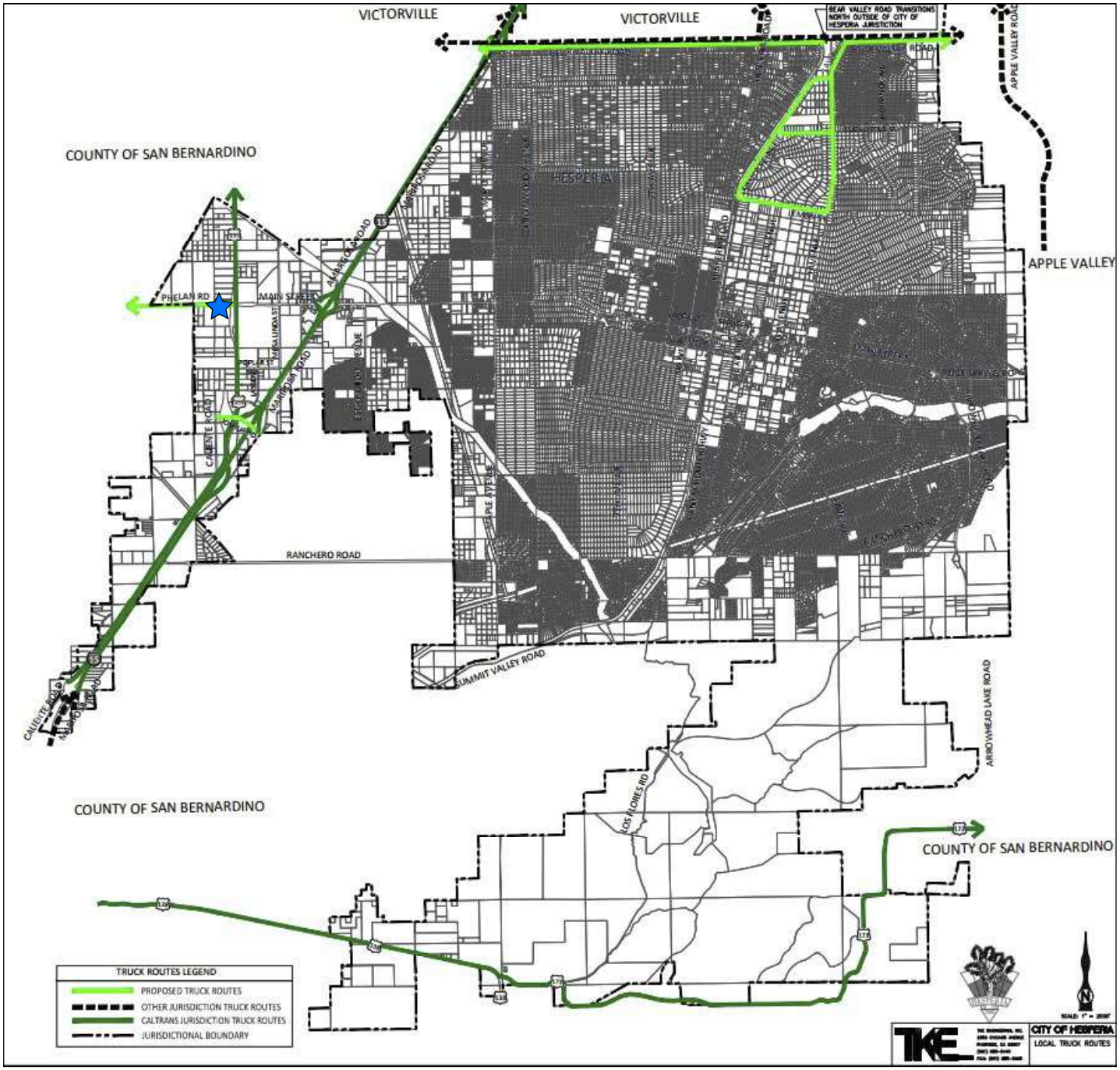
- **Route 21P/W** serves Victor Valley, Pinon Hills, and Wrightwood. The 21W route provides service between the Wrightwood Community Center and the Victor Valley Mall, and the 21P route provides service between the Pinon Hill Community Center and Cataba Road/Main Street. Route 21P/W provides 1.25-hour weekday peak service headways.
- **Route 25** serves Escondido Avenue, Ranchero Road, Oak Hills High School, Mariposa Road, and San Joaquin Valley College. Route 25 provides 2-hour weekday peak service headway.
- **Route 64** serves High County, North Star Ranch, Hesperia High School, Hesperia Junior High School, Hesperia Civic Center, Mojave High School, Sultana High School, and Hesperia Transfer Point. Route 64 provides 45 minutes to 1 hour and 15-minute weekday peak service headways.
- **Route 68** serves Hesperia Transfer Point, Hesperia Civic Center, Hesperia High School, Super Target, and the Mall of Victor Valley. Route 68 provides 1-hour weekday peak service headways.

2.3 Pedestrian and Bicycle Facilities

The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity of the site. Sidewalks are generally provided along the Main Street corridor, east of US Hwy 395 where residential and commercial development has been constructed.

The City of Hesperia Non-motorized Transportation Plan[6] identifies proposed bicycle facilities in the area, along with bicycle facilities that have been completed since the 2010 General Plan. The closest City designated bicycle facility is a proposed Class I bicycle path along both sides of Main Street, east of the I-15 northbound on-ramp, located approximately 1.5-miles east of the project site. Additional bicycle facilities are identified in Figure 5.

[5] VVTA (Victor Valley Transit Authority). 2023. “System Map.” https://vvta.org/interactive-map/.
[6] City of Hesperia. 2018. City of Hesperia Non-Motorized Transportation Plan.



Legend

★ Project Location

SOURCE: City of Hesperia General Plan

FIGURE 3

City of Hesperia Local Truck Routes

Phelan 20 Industrial Project

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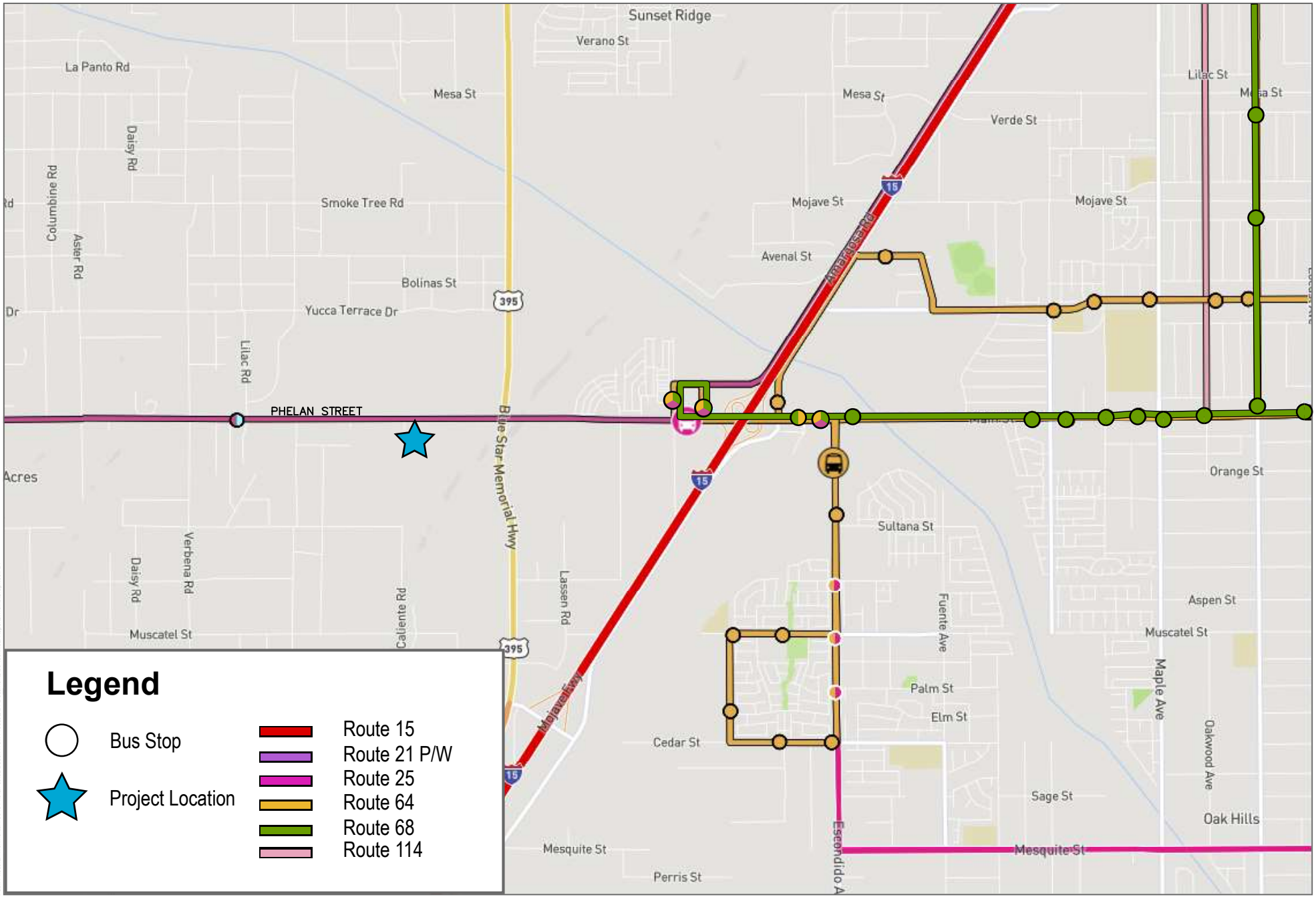

SOURCE: VVTA, 2024

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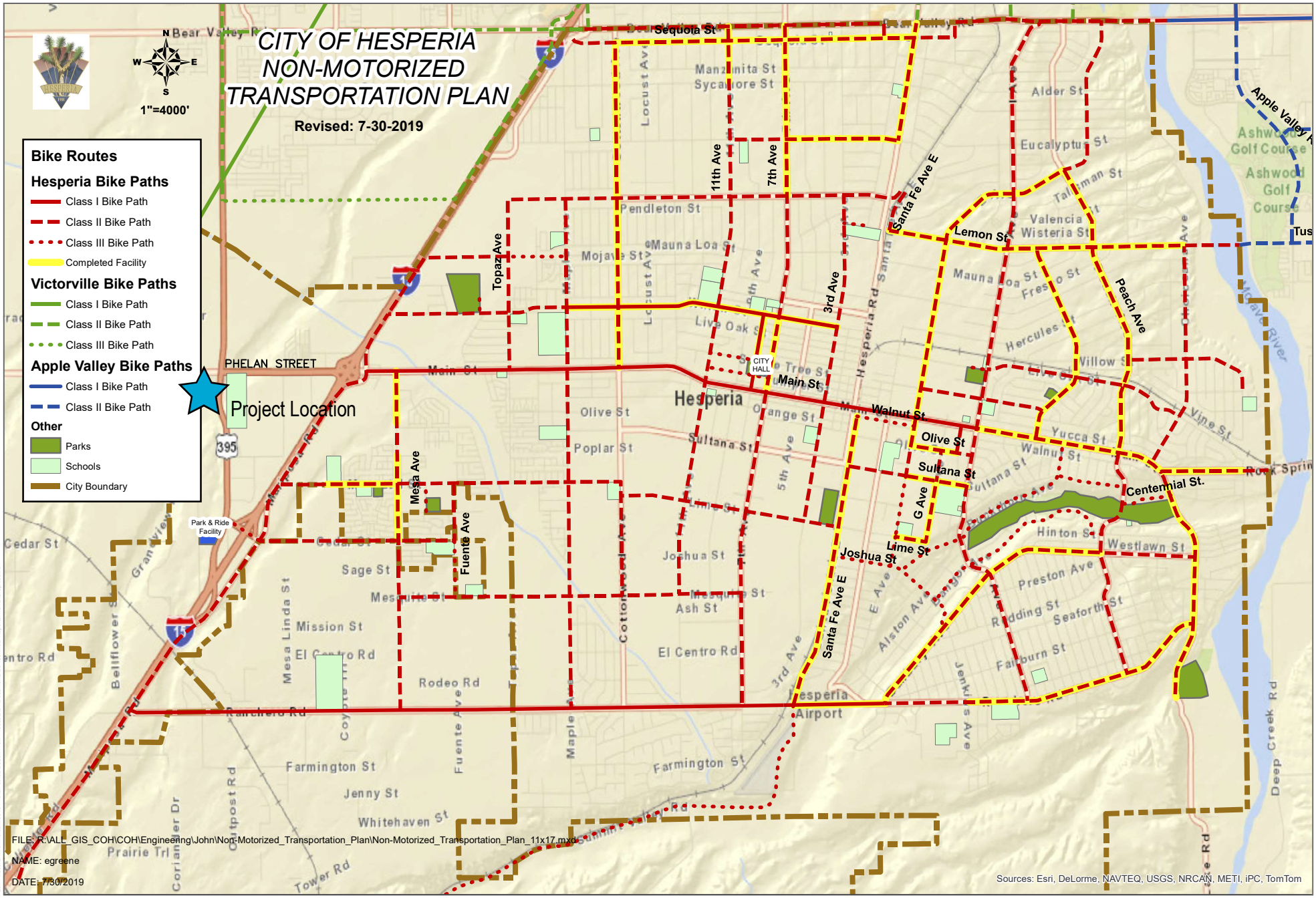
FIGURE 4

Local Transit Routes

Phelan 20 Industrial Project



SOURCE: City of Hesperia General Plan, 2019

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FIGURE 5

City of Hesperia Non-Motorized Transportation Plan

Phelan 20 Industrial Project

3.0 Project Trip Generation

The project trip generation rates, vehicle splits, and the resulting trip generation estimates for the project are summarized in Table 1. Trip generation estimates for the proposed project are based on daily and AM and PM peak hour trip generation rates obtained from the Institute of Transportation Engineers (ITE) Trip Generation Handbook, 11th Edition (2021). Additionally, Passenger car equivalent (PCE) factors were applied to the trip generation estimates to account for truck traffic. Based on the San Bernardino County Congestion Management Program (CMP) a 1.5 PCE factor was applied to 2-axle trucks, a 2.0 PCE was applied to 3-axle trucks, and a 3.0 PCE factor was applied to 4-axle trucks.

The layout of the building is most representative of a high-cube warehousing land use. However, as a specific end-user is not in place for the proposed project, a 35% General Light Industrial and 65% High-Cube Warehousing split of the total building square footage is applied to provide a conservative analysis. The General Light Industrial trip rate is approximately 5 times higher in the AM peak hour and 4 times higher in the PM peak hour than the High-Cube Fulfillment Center Warehouse trip rate. Thus, incorporation of the industrial trip rate split, in the event that a small portion of the building is converted to a more industrial-specific land use, increases the total trip generation estimate compared to a warehousing-only estimate, the expected sole land use of the facility. As such, the following vehicle-mix and land use assumptions provide a conservative analysis:

- General Light Industrial (ITE Code 110) trip rates were used to obtain trip generation estimates for 35% of the project, totaling approximately 146,944 SF. As the ITE Trip Generation Handbook does not provide information regarding the type of vehicle generated for light industrial uses, vehicle mixes data and percentages from the Fontana Truck Trip Generation Study[7] for Light Industrial land use are used.
- High-Cube Fulfillment Center Warehouse (ITE Code 155) trip rates were used to obtain trip generation estimates for 65% of the project, totaling approximately 272,896 SF. As the ITE Trip Generation Handbook does not provide a breakdown of truck traffic by axle classification, vehicle mix data and percentages are also applied to the project trip generation estimates from the 2014 SCAQMD Warehouse Truck Trip Study Data Results and Usage[8].

As shown in Table 1, the project would generate 745 daily trips, 151 AM peak hour trips, and 140 PM peak hour trips. This is equivalent to 1,115 daily PCEs, 205 AM peak hour PCEs, and 195 PM peak hour PCEs.

[7] City of Fontana. 2003. Truck Trip Generation Study.
[8] Southern California Air Quality Management District. 2014. SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. June 2014.

Table 1. Project Trip Generation

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
General Light Industrial	110	TSF	1.71	0.65	0.09	0.74	0.09	0.56	0.65
High-Cube Fulfillment Center Warehouse	155	TSF	1.81	0.12	0.03	0.15	0.06	0.10	0.16
Trip Generation									
35% Building - General Light Industrial	110	146.944 TSF	251	96	13	109	13	82	96
65% Building - High-Cube FC Warehouse	155	272.896 TSF	494	33	8	41	17	27	44
Phelan 60 Industrial Project Total		**419.840**	**745**	**129**	**21**	**150**	**30**	**109**	**140**
Trip Generation Summary (Non-PCE, by Vehicle Classification)									
General Light Industrial - 35% of Building									
Vehicle Mix	**%[2]**								
Passenger Vehicles	78.6%		197	75	10	86	11	65	75
2-Axle Trucks	8.0%		20	8	2	9	1	7	8
3-Axle Trucks	3.9%		10	4	1	5	1	4	4
4+-Axle Trucks	9.5%		24	9	1	10	1	8	9
General Light Industrial Total (Non-PCE)			**251**	**96**	**14**	**110**	**13**	**83**	**96**
High-Cube Fulfillment Center Warehouse - 65% of Building									
Vehicle Mix	**%[3]**								
Passenger Vehicles	55.3%		273	18	4	23	9	15	24
2-Axle Trucks	15.5%		77	5	1	6	3	4	7
3-Axle Trucks	4.9%		24	2	0	2	1	1	2
4+-Axle Trucks	24.3%		120	8	2	10	4	6	11
High-Cube Fulfillment Center Total (Non-PCE)			**494**	**33**	**8**	**41**	**17**	**27**	**44**
Building Total			**745**	**129**	**22**	**151**	**30**	**110**	**140**
Total by Vehicle Classification									
Passenger Vehicles			470	94	15	108	20	79	100

Table 1. Project Trip Generation

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trucks			274	36	7	42	10	30	40
Total Trip Generation (Non-PCE)			**745**	**129**	**22**	**151**	**30**	**110**	**140**
Trip Generation Summary (PCE, by Vehicle Classification)									
Vehicle Mix	**PCE[4]**								
Passenger Vehicles	1.0		470	94	15	108	20	79	100
2-Axle Trucks	1.5		145	20	5	24	6	16	22
3-Axle Trucks	2.0		68	11	2	12	3	11	14
4+-Axle Trucks	3.0		432	51	9	61	16	43	59
Building Total (PCE)			**1,115**	**175**	**31**	**205**	**45**	**149**	**194**
Total by Vehicle Classification									
Passenger Vehicles			470	94	15	108	20	79	100
Trucks			644	82	16	97	24	69	95
Total Trip Generation (PCE)			**1,115**	**175**	**31**	**205**	**44**	**149**	**195**

Notes: Rounding discrepancies may occur. TSF = Thousand Square Feet; PCE = Passenger Car Equivalent

1 Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition, 2021.*

2 Vehicle Mix and Percent from the Fontana Truck Trip Generation Study, August, 2004.

3 Vehicle Mix and Percent from the SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

4 Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

4.0 City of Hesperia Level of Service Thresholds

Per the City's Traffic Impact Analysis (TIA) Guidelines, a LOS analysis would be required for projects that generate over 250 peak hour trips. As shown in Table 1, the project would generate 151 AM peak hour trips (205 AM PCEs) and 140 PM peak hour trips (195 PM PCEs). As such, a LOS analysis is not required.

5.0 Access, Circulation, and Safety

The Project site is located within the US Hwy 395/I-15 District of the Main Street and Freeway Corridor Specific Plan (MSFCSP). According to the Specific Plan, the Hwy 395/I-15 District is intended to provide enhanced vehicular, truck, and rail accessibility for commercial/industrial business park uses by taking advantage of its location along the I-15 corridor with its connection to US Hwy 395, and its linkage to the Southern California Logistics Airport, a major logistics hub, located approximately 13 miles north of the Project site via US Hwy 395 in the City of Victorville. Per the MSFCSP, the recommended district land uses build upon the presence of a major truck stop and other existing and planned light industrial uses. The purpose of this district is to create employment-generating uses in a business park setting. The kind of industrial uses envisioned in this District include light industrial, light manufacturing, and industrial support uses, mainly conducted in enclosed buildings, with minimal environmental impacts. The Project is consistent with these types of uses.

Site Access

Access to the Project site would be provided by three driveways (see Figure 6, Vehicular Circulation Plan):

- **Driveway #1: Phelan Road North Driveway** – 30-foot-wide, right-in right out (passenger cars only) driveway with stop sign
- **Driveway #2: New Caliente Street East Driveway** – 45-foot-wide, full-access (passenger cars and trucks) driveway with stop sign
- **Driveway #3: New Caliente Street Southeast Driveway** – 30-foot-wide, full-access (passenger cars and trucks) driveway with stop sign

Consistent with Hesperia Fire Department access requirements, all Project driveways have been designed to allow for minimum turning radii. Signage and striping would be provided to demarcate fire lanes and clear spaces throughout the site. All gated entryways to truck courts would include rapid-access Knox boxes to provide emergency access to gated areas.

Truck Routes

Main Street east of US Hwy 395 is no longer designated as a City truck route; therefore, all Project truck traffic traveling to and from I-15 will be routed on US Hwy 395 to the Joshua Street interchange.

Proposed Site Access Improvements

The Project would include improvements along Phelan Road, including frontage landscaping and pedestrian improvements. All roadway improvements required as part of the Project, whether located on or off site, would be designed and constructed in accordance with all applicable local, state, and federal roadway standards and practices. As the Project continues through design review, detailed roadway improvements will continue to be developed in coordination with the City.

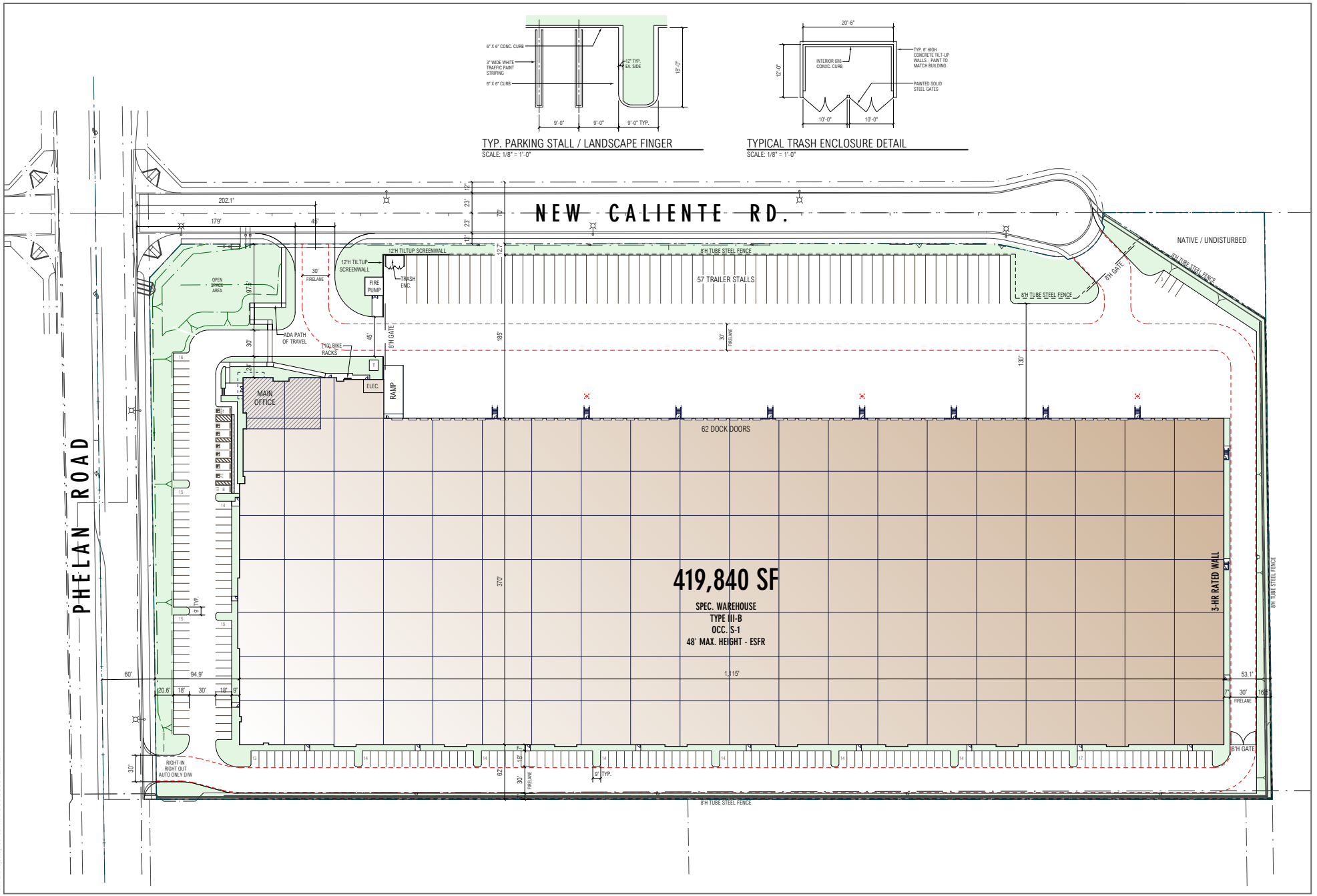
The design of the proposed project, including all egress/ingress and driveways would be designed according to all relevant City guidelines and would be reviewed by the City's Public Works/Engineering Department. All driveways would be required to have adequate queue storage areas, would be perpendicular to existing roads, and would not cause hazards due to a geometric design feature.

Pedestrian Access and Bicycle Access

The Project would construct pedestrian facilities (e.g., curb and gutter) along all Project frontages, including on Phelan Road and Caliente Road. Additionally, as the adjacent areas surrounding the Project site continue to become developed, connectivity to other areas of the City will be realized.

Emergency Access

All roadway, intersection and Project access improvements would be overseen by the applicable lead agency and their qualified traffic engineers. This approach would ensure compliance with all applicable roadway design requirements. In the event of an emergency all the site access driveways would enable vehicles to enter/exit the Project site. All street improvements will be designed with adequate width, turning radius, and grade to facilitate access by City's firefighting apparatus, and to provide alternative emergency ingress and egress. The site plan would be subject to plan review by the City's Fire Department to ensure proper access for fire and emergency response is provided and required fire suppression features are included. Therefore, the Project's impact due to inadequate emergency access would be less than significant. As such, no hazardous design features would be part of the Project's roadway improvements or site access.



SOURCE: RGA, 2023

FIGURE 6

Vehicle Circulation Access

Phelan 20 Project

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6.0 Vehicle Miles Traveled

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Hesperia adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in their adopted City of Hesperia Transportation Impact Analyses Guidelines for Vehicle Miles Traveled And Level of Service Assessment The adopted City Guidelines have been used to prepare this analysis.

6.1 VMT Screening Analysis

The City's Guidelines provides details on appropriate "screening thresholds" that can be used to identify when a proposed land use project is anticipated to result in a less-than-significant impact without conducting a more detailed analysis. A land use project need only to meet one of the below screening thresholds to result in a less-than- significant impact.

- **TPA Screening:** Consistent with guidance identified in the Technical Advisory and City's Guidelines, projects located within a Transit Priority Area (TPA) (e.g., within ½ mile of an existing "major transit stop" or an existing stop along a "high-quality transit corridor") may be presumed to have a less than significant impact absent substantial evidence to the contrary. The Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.
- **Low VMT Area Screening:** Residential and office projects that locate in areas with low VMT and that incorporate similar features (density, mix of uses, and transit accessibility) will tend to exhibit similarly low VMT. The Screening Tool uses the sub-regional SBTAM to measure VMT performance within individual TAZs within the region. The Project would not qualify as residing in a low VMT area.
- **Project-Type Screening:** The City's Guidelines states that projects that are consistent with the current Sustainable Communities Strategy (SCS) or general plan, and that generate fewer than 110 daily vehicle trips be presumed to have a less-than-significant impact on VMT. The Project would generate 1,115 daily vehicle trips (1,634 passenger car equivalents) and would not be eligible to screen out based on project type screening.

The proposed Project does not meet any of the screening criteria listed above. The Project does not generate less than 110 daily trips (as shown in Table 1) and is an industrial project that would not be considered a locally serving retail use and does not include affordable housing. The Project is also not located in a low VMT area as identified on the City's VMT maps or is it within a half-mile mile of an existing major transit stop, or along a high-quality transit corridor. Therefore, a project-level VMT analysis is required and is presented below.

6.2 VMT Analysis

VMT Modeling

The City Guidelines identifies the SBTAM as the appropriate tool for conducting VMT analysis for land use projects in the City of Victorville, as it considers interaction between different land uses based on socio-economic data, such as population, households, and employment. The SBTAM model assumes datasets consistent with the 2016

Southern California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

VMT Metric and Significance Threshold

City Guidelines identifies VMT per service population as the transportation efficiency metric to be compared to the County of San Bernardino VMT average. A project would result in a significant project-generated VMT impact if either of the following conditions are satisfied:

1. The baseline project generated VMT per service population exceeds the San Bernardino County regional average baseline VMT per service population, or
2. The cumulative project generated VMT per service population exceeds the San Bernardino County regional average baseline VMT per service population.

Based on VMT data previously published by the San Bernardino County Transportation Authority (SBCTA) for each of its member agencies and the San Bernardino County region, the County of San Bernardino regional average baseline VMT per service population is 32.7.

Additionally, the project's effect on VMT would be considered significant if it results in the following condition to be satisfied:

1. The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition, or
2. The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

VMT Approach

The Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*[9] provides technical assistance and recommendations for the analysis of VMT. The methodology recommendations for the VMT analysis include a discussion on vehicle types. An excerpt from the OPR Technical Advisory regarding vehicle types is below:

> Vehicle Types. Proposed Section 15064.3, subdivision (a), states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks. Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT). For an apples-to-apples comparison, vehicle types considered should be consistent across project assessment, significance thresholds, and mitigation.

Per Section 21099 of the Public Resource Code, the selection of the VMT criteria for determining the significance of transportation impacts was intended to promote reductions of greenhouse gas emissions (GHG); to develop multimodal transportation networks; and to diversify land uses. As mentioned in the OPR's Technical Advisory, there

[9] OPR (California Governor's Office of Planning and Research). 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA. December 2018. Accessed February 2021. http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.

are various legislative mandates and state policies that establish quantitative GHG emission reduction targets. Pursuant to Senate Bill 375, the California Air Resources Board GHG emissions reduction targets for metropolitan planning organizations (MPOs) call for reductions in GHG emissions only from cars and light trucks. Therefore, a custom model run using the SBTAM was conducted to estimate VMT from automobiles (i.e., cars and light trucks) only, and the Project's VMT and the threshold VMT were extracted only for automobile VMT. This allows for an apples-to apples comparisons of VMT generated by vehicle types across project assessment, significance thresholds, and mitigation (if any). While the abovementioned OPR Technical Advisory allows for heavy duty truck VMT to be included in modeling, it is important to note that this allowance was provided for modeling convenience and ease of calculation; however, in keeping with the intent of Section 21099 of the Public Resource Code and Section 15064.3, subdivision (a) of the CEQA Guidelines (which specify that automobile VMT is the primary metric that should be evaluated), the extra step of removing heavy truck VMT from SBTAM was undertaken to provide for a project level analysis that most appropriately meets the intent of SB 743. Additionally, as noted during an informational question and answer session conducted by OPR to provide information and guidance on conducting project-level VMT analysis (OPR 2020), it is automobile VMT (i.e., cars and light duty trucks) that needs to be quantified for all land uses, including warehouses. Therefore, a custom model run using the SBTAM was conducted to estimate VMT from automobiles (i.e., cars and light trucks) only, and the Project's VMT and the threshold VMT were extracted only for automobile VMT.

VMT Findings

The following section summarizes the VMT analysis findings.

Project Generated VMT

The Origin/Destination (OD) method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area (i.e., TAZ or group of TAZ's). The OD method accounts for all trips (i.e., both passenger car and truck) and trip purposes (i.e., total VMT) and therefore provides a more complete estimate of VMT. Total VMT is then divided by the Project's service population (population and employment) to derive the efficiency metric VMT per service population. Table 2 presents Project generated OD VMT and the resulting OD VMT per service population for both Baseline (2023) and Cumulative (2040) conditions. As shown in Table 2, the Project would generate OD VMT per service population above the City's adopted impact threshold for both baseline and cumulative conditions, which would result in a potentially significant VMT impact.

Table 2. Project Generated VMT

	Baseline	Cumulative
Service Population	351	351
Total OD VMT	17,506	18,897
OD VMT per Service Population	49.8	54.0
City Threshold	32.7	32.7
Potentially Significant?	Yes	Yes

Source: Urban Crossroads, 2023
Notes: OD = origin destination

Project Effect On VMT

The City Guidelines state that the VMT analysis should also contain an evaluation of a project's effect on VMT for projects not consistent with the RTP/SCS. Although the Project is consistent with the RTP/SCS for purposes of fully disclosing any potential VMT impacts, the cumulative effect on VMT was also evaluated, which was performed using the boundary method of calculating VMT. The boundary method is the sum of all weekday VMT on the roadway network and estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length within a designated boundary. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. In this case, consistent with the City Guidelines the County of San Bernardino boundary was used. Table 3 presents total VMT calculated using the boundary method for cumulative no project and plus project conditions.

Table 3. Boundary VMT

	Baseline		Cumulative	
	No Project	With Project	No Project	With Project
Service Population	2,930,939	2,931,290	3,749,647	3,749,998
Boundary VMT	57,687,745	57,684,081	87,716,504	87,739,843
VMT per Service Population	19.7	19.7	23.4	23.4
Change in VMT per Service Population	0.0		0.0	
Potentially Significant?	No		No	

Source: Urban Crossroads, 2023

As shown in Table 3, the boundary VMT per service population remains unchanged under With Project scenario as compared to the no project scenario resulting in a cumulative effect on VMT impact that is less than significant.

Potential VMT Reduction Strategies

Project generated VMT per service population would exceed the City's impact threshold for both baseline and cumulative conditions. The Project would be required to reduce its VMT impact by 39.5%3 to achieve a less than significant finding. For the purposes of this analysis, the following project design features have the potential to reduce commute VMT, although no quantified benefit is taken at this time.

- Provide designated carpool/vanpool parking in desirable locations to encourage employees to carpool/vanpool to work that can lead to reduced commute VMT depending on the level of participation by tenants.
- Provide end-of-trip facilities such as bicycle parking, lockers, etc., which could encourage employees to use alternative modes of transportation and thus reduce VMT.
- Provide sidewalks along Project frontage providing connections to existing trails and external pedestrian networks in order to improve pedestrian access. This measure could encourage employees to walk to nearby destinations and thus reduce VMT. Although the Project includes design features that are intended to reduce VMT, even with the inclusion of these VMT reducing features the Project is not expected to reduce its VMT impact below the City's adopted impact threshold and the Project is determined to have a significant impact and unavoidable impact.

6.3 Supplemental Truck VMT Analysis

While not required by CEQA, a supplemental VMT evaluation measuring project generated total VMT and total VMT per Service Population was conducted to fully disclose potential VMT impacts resulting from both automobiles and trucks. For purposes of this analysis, total VMT has been estimated from vehicle trip generation rates (per Table 1) and average trip length for each vehicle type. Average trip length information was obtained from the SBTAM for passenger cars and StreetLight™ Data's Truck Volume Metrics for medium heavy-duty trucks (MDT) (2 and 3 axle trucks) and heavy heavy-duty trucks (HDT) (4+ axle trucks). Detailed information on the methodology can be found in Attachment E of this Memo.

Table 4 presents an estimation of total VMT for the Project, which uses vehicle trip generation multiplied by the average trip length for each vehicle type.

Table 4. Total Project VMT

Vehicle Type	Vehicle Trips	Vehicle Trip Length	VMT
Automobile	470	12.6	5,922
Total Truck	274	62.1	17,015
Total	744	—	22,937

Source: Urban Crossroads, 2023; Attachment E

Table 5 presents the calculation of the efficiency metric total VMT per Service Population, which is the product of total VMT generated by the Project divided by its Service Population (employment). The table identifies a comparison between the Project's total VMT per Service Population to the City's adopted impact threshold.

Table 5. Total Project VMT per Service Population

	Project
Service Population	351
Total VMT	22,937
VMT per Service Population	65.3
Threshold	32.7
VMT Exceeds Threshold	Yes

As presented in Table 5, when accounting for both passenger vehicles and trucks, the Project is forecast to generate total VMT per Service Population of 65.3, which would exceed the City's VMT impact threshold.

7.0 Summary

The key findings of the transportation analysis in this memo are summarized below:

- The proposed project would generate 745 daily trips, 151 AM peak hour trips, and 140 PM peak hour trips. This is equivalent to 1,115 daily PCEs, 205 AM peak hour PCEs, and 195 PM peak hour PCEs.
- The project generates less than 250 peak hour trips, therefore a level of service analysis is not required per the City's TIA Guidelines.
- The Project would have no impact on the transit, pedestrian and bicycle facilities in the area.
- The Project was evaluated against VMT screening criteria as outlined in the City Guidelines. The Project was not found to meet any available screening criteria, and a VMT analysis was performed.
- Project generated VMT was estimated for baseline and cumulative conditions and found to exceed the City's impact threshold under both scenarios resulting in a potentially significant impact.
- Project effect on VMT was evaluated for both baseline and cumulative conditions and found to not exceed the City's impact threshold for either scenario resulting in a less than significant impact.
- Even with the implementation of VMT reducing project design features, the Project would not be able to reduce its VMT impact to less than significant; the Project's VMT impact is considered significant and unavoidable.

Attachment A

Urban Crossroads VMT Analysis

MEMORANDUM

URBAN CROSSROADS

DATE: September 27, 2023
TO: Lisa Valdez, Dudek
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 14936-01 VMT

PHELAN 20 INDUSTRIAL VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for Phelan 20 Industrial (**Project**), which is located on Phelan Road, west of Highway 395 and east of Los Banos Ave, in the City of Hesperia.

PROJECT OVERVIEW

It is our understanding that the Project includes the construction of a speculative industrial warehouse totaling 419,700 square feet and associated improvements, including loading docks, truck and vehicle parking, and landscaped areas. The site plan is provided in Attachment A.

BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City of Hesperia adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in their adopted City of Hesperia Transportation Impact Analyses Guidelines for Vehicle Miles Traveled And Level of Service Assessment (July 2020) (**City Guidelines**) (1). The adopted City Guidelines have been used to prepare this analysis.

VMT SCREENING

City Guidelines identifies that a project may be determined to have a non-significant transportation impact if it meets one or more VMT screening criteria. Each of the screening criteria listed in the City Guidelines are described in Table 1 along with a determination of the Project's eligibility to meet each criterion.

TABLE 1: SCREENING FOR LAND USE PROJECTS EXEMPT FROM VMT ANALYSIS

Screening Steps	Description	Result
1. Transit Priority (TPA) Screening	Projects located within a TPA (i.e., within a half mile of an existing major transit stop or an existing stop along a high-quality transit corridor) are presumed to have a less than significant impact on VMT.	Does not meet.
2. Low VMT Area Screening	Projects located within a low VMT generating zone that can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area are presumed to have a less than significant impact on VMT. A low VMT area is defined as an individual traffic analysis zone (TAZ) where total daily Origin/Destination VMT per service population is lower than the City average total daily Origin/Destination VMT per service population.	Does not meet.
3. Project Type Screening	Local-Serving Retail under 50,000 square feet, Local Essential Services, and projects generating less than 110 daily vehicle trips are presumed to have a less than significant impact on VMT.	Does not meet.

As shown in Table 1, the Project was not found to meet eligible screening criteria and consistent with the City Guidelines a project level VMT analysis has been prepared.

VMT ANALYSIS

VMT MODELING

The City Guidelines identifies the SBTAM as the appropriate tool for conducting VMT analysis for land use projects in the City of San Bernardino, as it considers interaction between different land uses based on socio-economic data, such as population, households, and employment. The SBTAM model assumes datasets consistent with the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS).

VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines note that the VMT analysis should include 'project generated VMT' and 'project effect on VMT' estimates for the Project TAZ under the following traffic scenarios:

- Baseline conditions
- Baseline plus project
- Cumulative no project
- Cumulative plus project

City Guidelines identifies **VMT per service population** as the transportation efficiency metric to be compared to the **County of San Bernardino VMT average**. More specifically, City Guidelines identifies the following impact thresholds for project level VMT analyses:

1. The baseline project generated VMT per service population exceeds the **San Bernardino County regional average** baseline VMT per service population, or

2. The cumulative project generated VMT per service population **exceeds the San Bernardino County regional average baseline** VMT per service population.

The project's effect on VMT would be considered significant if it resulted in the following conditions:

1. The baseline link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition, or
2. The cumulative link-level boundary (County of San Bernardino) VMT per service population increases under the plus project condition compared to the no project condition.

Based on VMT data previously published by the San Bernardino County Transportation Authority (SBCTA) for each of its member agencies and the San Bernardino County region, the County of San Bernardino regional average baseline VMT per service population is **32.7**.

PROJECT LAND USE CONVERSION

In order to evaluate Project generated VMT, standard land use information such as building size must first be converted into a SBTAM compatible dataset. The SBTAM model utilizes socio-economic data (SED) (e.g., employees) for the purposes of vehicle trip estimation. Table 2 presents the SED inputs used to represent the Project in SBTAM.

TABLE 2: EMPLOYMENT ESTIMATES

Land Use	Building Area	Conversion Factor[1]	Estimated Employees
Warehouse	419,700 SF	1,195 SF per Employee	351

PROJECT VMT ESTIMATES

PROJECT GENERATED VMT

The Origin/Destination (**OD**) method for calculating VMT sums all weekday VMT generated by trips with at least one trip end in the study area (i.e., TAZ or group of TAZ's). The OD method accounts for all trips (i.e., both passenger car and truck) and trip purposes (i.e., total VMT) and therefore provides a more complete estimate of VMT. Total VMT is then divided by the Project's service population (population and employment) to derive the efficiency metric VMT per service population.

Table 3 presents Project generated OD VMT and the resulting OD VMT per service population for both Baseline (2023) and Cumulative (2040) conditions. As shown in Table 3, the Project would generate OD VMT per service population above the City's adopted impact threshold for both baseline and cumulative conditions, which would result in a potentially significant VMT impact.

[1] SCAG Employment Density Study; Table II-B

TABLE 3: PROJECT VMT PER SERVICE POPULATION

	Baseline	Cumulative
Service Population[2]	351	351
OD VMT	17,506	18,974
OD VMT per Service Population	49.8	54.0
City Threshold	32.7	32.7
Potentially Significant?	Yes	Yes

PROJECT EFFECT ON VMT

The City Guidelines state that the VMT analysis should also contain an evaluation of a project's effect on VMT for projects not consistent with the RTP/SCS. Although the Project is consistent with the RTP/SCS for purposes of fully disclosing any potential VMT impacts, the cumulative effect on VMT was also evaluated, which was performed using the boundary method of calculating VMT.

The boundary method is the sum of all weekday VMT on the roadway network and estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length within a designated boundary. This approach consists of all trips, including those trips that do not begin or end in the designated boundary. In this case, the consistent with the City Guidelines the County of San Bernardino boundary was used.

Table 4 presents total VMT calculated using the boundary method for cumulative no project and plus project conditions. As expected, the boundary VMT per service population remains unchanged under With Project scenario as compared to the no project scenario resulting in a cumulative effect on VMT impact that is less than significant.

TABLE 4: CUMULATIVE BOUNDARY VMT RESULTS

	Baseline		Cumulative	
Scenario	No Project	With Project	No Project	With Project
Service Population	2,930,939	2,931,290	3,749,647	3,749,998
Boundary VMT	57,687,745	57,684,081	87,716,504	87,739,843
VMT per Service Population	19.7	19.7	23.4	23.4
Change in VMT per Service Population	0.0		0.0	
Potentially Significant?	No		No	

POTENTIAL VMT REDUCTION STRATEGIES

Project generated VMT per service population would exceed the City's impact threshold for both baseline and cumulative conditions. The Project would be required to reduce its VMT impact by 39.5%[3] to achieve a less than significant finding. For the purposes of this analysis, the following project design features have the potential to reduce commute VMT, although no quantified benefit is taken at this time:

[2] For the purposes of this analysis service population refers to Project employees.

[3] $(18{,}974_{\text{Project VMT}} - (32.7*351)_{\text{Threhold VMT}}) / 18{,}974_{\text{Project VMT}} \times 100 = 39.5\%$

- Provide designated carpool/vanpool parking in desirable locations to encourage employees to carpool/vanpool to work that can lead to reduced commute VMT depending on the level of participation by tenants.
- Provide end-of-trip facilities such as bicycle parking, lockers, etc., which could encourage employees to use alternative modes of transportation and thus reduce VMT.
- Provide sidewalks along Project frontage providing connections to existing trails and external pedestrian networks in order to improve pedestrian access. This measure could encourage employees to walk to nearby destinations and thus reduce VMT.

Although the Project includes design features that are intended to reduce VMT, even with the inclusion of these VMT reducing features the Project is not expected to reduce its VMT impact below the City's adopted impact threshold and the Project is determined to have a significant impact and unavoidable impact.

SUMMARY

Based on the results of this analysis the following findings are made:

- The Project was evaluated against VMT screening criteria as outlined in the City Guidelines. The Project was not found to meet any available screening criteria, and a VMT analysis was performed.
- Project generated VMT was estimated for baseline and cumulative conditions and found to exceed the City's impact threshold under both scenarios resulting in a potentially significant impact.
- Project effect on VMT was evaluated for both baseline and cumulative conditions and found to not exceed the City's impact threshold for either scenario resulting in a less than significant impact.
- Even with the implementation of VMT reducing project design features, the Project would not be able to reduce its VMT impact to less than significant; the Project's VMT impact is considered significant and unavoidable.

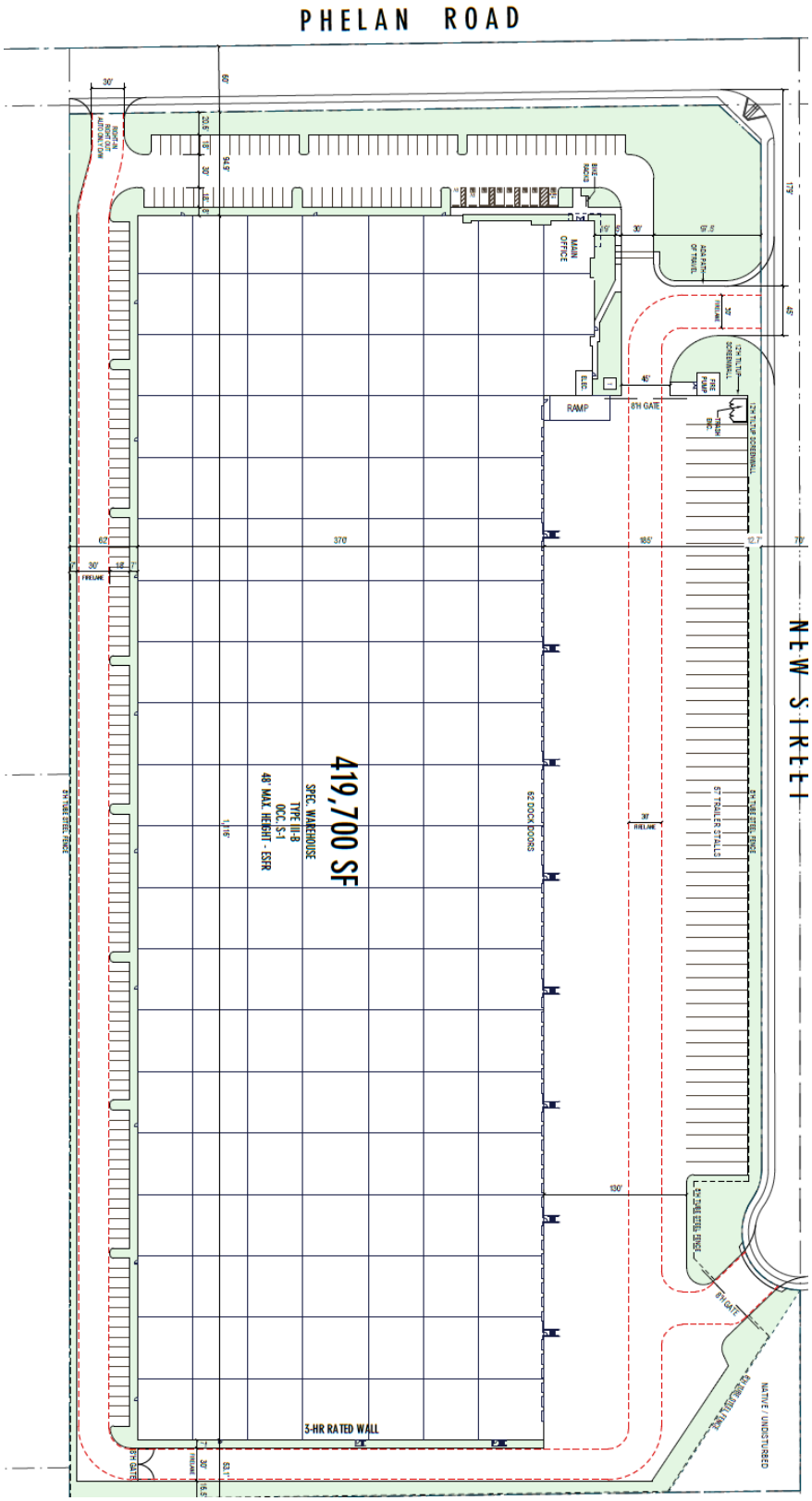
If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. **City of Hesperia.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS).* City of Hesperia : s.n., July 2020.

ATTCHMENT A

PRELIMINARY SITE PLAN


PHELAN ROAD
NEW STREET
419,700 SF
SPEC. WAREHOUSE
TYPE III-B
OCC. S-1
40 MAX. HEIGHT - ESR
62 DOCK DOORS
57 TRAILER STALLS
3-HR RATED WALL
MAIN OFFICE
RAMP
6FT TUBE STEEL FENCE
8FT TUBE STEEL FENCE
NATIVE / UNDISTURBED

MEMORANDUM

URBAN CROSSROADS

DATE: December 5, 2023
TO: Lisa Valdez, Dudek
FROM: Alex So, Urban Crossroads
JOB NO: 15702-02 Sup Truck VMT

PHELAN 20 INDUSTRIAL SUPPLEMENTAL VMT ANALYSIS

Urban Crossroads, Inc. is pleased to provide the following Supplemental VMT Analysis for the Phelan 20 Industrial (**Project**), which is located on Phelan Road, west of Highway 395 and east of Los Banos Ave, in the City of Hesperia.

PROJECT OVERVIEW

It is our understanding that the project is to consist of the construction of a 419,700 square foot industrial warehouse building.

SUPPLEMENTAL VMT EVALUATION

In an effort to fully disclose potential VMT impacts, this memorandum includes a supplemental VMT evaluation measuring project generated total VMT and total VMT per Service Population (VMT per SP). For purposes of this analysis, total VMT has been estimated from vehicle trip generation rates (see Attachment A) consistent with the Project's traffic study, and average trip length for each vehicle type. Average trip length information has been obtained from the San Bernardino Traffic Analysis Model (SBTAM) for passenger cars and StreetLight™ Data's Truck Volume Metrics for medium heavy-duty trucks (MDT) (2 and 3 axle trucks) and heavy heavy-duty trucks (HDT) (4+ axle trucks).

ABOUT STREETLIGHT™ DATA[1]

StreetLight™ Data's Truck Volume Metrics rely on five linked machine-learning models to estimate vehicle volume and trip length for various vehicle classes and total vehicles. These metrics cover data from 2019 through 2021. To provide volume estimates over different time periods, StreetLight™ Data utilizes the Monthly Average Daily Trip (MADT) for the specific days or times needed for a given analysis.In the scaling process, StreetLight™ factors in the ratio between sample trip counts for specific hours, days, and trip counts for the entire month, using MADT

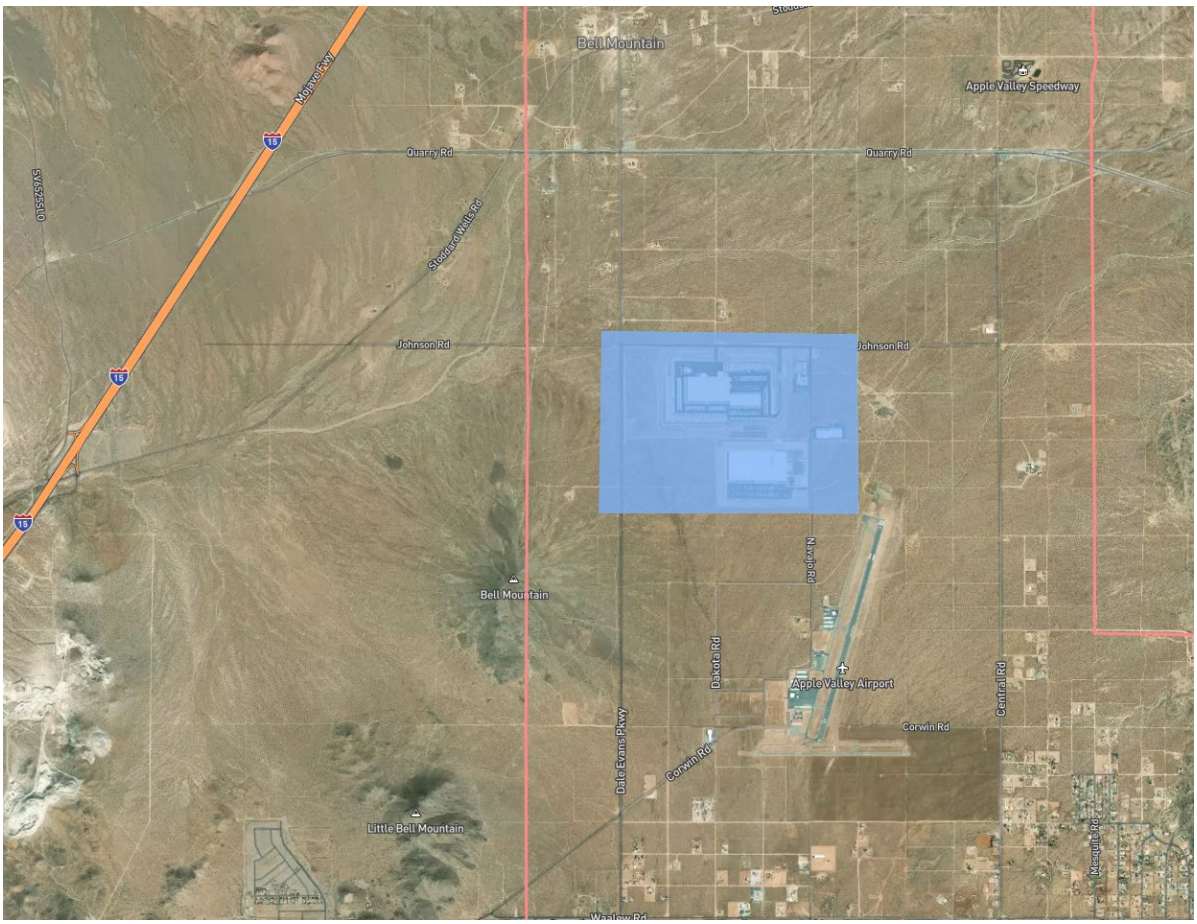
[1] SteetLight Insight Truck Volume Methodology and Validation (September 2022).

for that zone. The estimated truck volume is validated by comparing it to actual volume data obtained from permanent traffic counters, sourced from the Federal Highway Administration's (FHWA) Travel Monitoring Analysis System (TMAS) CLS dataset. This dataset includes traffic counts from over 3,000 unique sites, spanning from January 2019 through December 2021.

SURVEY AREA

Truck travel characteristics were obtained from an existing industrial area near the proposed Project near the I-15 Freeway. This area was chosen due to its proximity to the Project and anticipated operational similarities. The data for this survey includes information on Medium Heavy-Duty Trucks (MDT) and Heavy Heavy-Duty Trucks (HDT) that either originated, ended, or passed through the surveyed area during the most recent consecutive 12-month period available from StreetLight™ Data for truck travel volume metrics. Exhibit 1 shows the surveyed location.

EXHIBIT 1: SURVEYED LOCATION



TRUCK TRIP LENGTH

Utilizing the above parameters, average daily zone traffic[2] of MDT vs. HDT, average trip length by vehicle class, and distance bins[3] of per-trip length in miles was obtained from StreetLight Data. Total average trip length for MDT and HDT was calculated by multiplying the disaggregated data's average trip length with its' respective percentage of total aggregated trucks (effectively calculating a weighted mean using percentages as weights) and then summing the amounts.

TABLE 1: AVERAGE TRIP LENGTH BY VEHICLE TYPE

	MDT Avg Trip Length	MDT % of Total	HDT Avg Trip Length	HDT % of Total	Weighted Average Trip Length
Apple Valley	47.2	75.3%	105.8	24.7%	62.1

Based on traffic monitoring data collected for the most recent 12-month period of complete data available from StreetLight Data, the average trip length of MD and HD trucks has been calculated 62.1 miles.

TRUCK ACTIVITY BY AIR DISTRICT

Further review of the data StreetLight™ reveals the activity outside the Mojave Desert Air district the Truck activity. The truck activity by air district is presented in Table 2.

TABLE 2: ACTIVITY BY AIR DISTRICT

Air District	Truck Activity
Kern	14%
San Joaquin Valley Unified	6%
Antelope valley	1%
South Coast	72%

Note: The Remaining 7% of truck activity is related to trucks that remain in the Mojave Desert Air District.

PROJECT VMT ESTIMATES

Table 3 presents an estimation of total VMT for the Project, which utilizes vehicle trip generation rates consistent with the Project's traffic study multiplied by the average trip length for each vehicle type.

TABLE 3: PROJECT VMT

Vehicle Type	Vehicle Trips	Vehicle Trip Length	VMT
Automobile	470	12.6	5,922
Total Truck	274	62.1	17,015
Total	744	-	22,937

[2] Average daily zone traffic was then used to calculate % of total aggregated trucks for each disaggregate.
[3] Distance bins were defaulted to: 0-1, 1-2, 2-5, 5-10, 10-20, 20-30, 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, 90-100, and 100+ in miles.

Table 4 presents the calculation of the efficiency metric total VMT per SP, which is the product of total VMT generated by the Project divided by its SP (employment). Table 3 identifies a comparison between the Project's total VMT per SP to the City's adopted impact threshold. As specified in the City of Hesperia Transportation Impact Analyses Guidelines for Vehicle Miles Traveled And Level of Service Assessment (July 2020) (**City Guidelines**) (1), **if the baseline project generated VMT per SP exceeds the San Bernardino County regional average baseline VMT per SP it would result in a significant impact**. City Guidelines identifies the San Bernardino County regional average VMT per service population as 32.7[4].

TABLE 4: VMT PER SP

	Project
SP	351
Total VMT	22,937
VMT per SP	65.3
Threshold	32.7
VMT Exceeds Threshold	Yes

As presented in Table 4, using the VMT calculation methodology previously described, the Project is forecast to generate total VMT per SP of 65.3, which would exceed the City's VMT impact threshold and result in a significant VMT impact.

If you have any questions, please contact me directly at aso@urbanxroads.com.

[4] City Guidelines; Page 28.

REFERENCES

1. **City of Hesperia.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS).* City of Hesperia : s.n., July 2020.

ATTACHMENT A

PROJECT TRIP GENERATION SUMMARY

Table 1 - Phelan 20 Industrial Project Trip Generation Summary (High-Cube Fulfillment Center & Warehousing)

Land Use	ITE Code	Size/Units	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
TRIP RATES [1]									
General Light Industrial	110	TSF	1.71	0.65	0.09	0.74	0.09	0.56	0.65
High-Cube Fulfillment Center Warehouse (non-sort)	155	TSF	1.81	0.12	0.03	0.15	0.06	0.10	0.16
TRIP GENERATION									
Phelan 60 Industrial Project Total	110	146.895 TSF	251	96	13	109	13	82	96
	155	272.805 TSF	494	33	8	41	17	27	44
	Project Total	*419.700 TSF*	*745*	*129*	*21*	*150*	*30*	*109*	*140*
TRIP GENERATION SUMMARY (Non-PCE, by Vehicle Classification)									
ITE 110- 35% split									
Vehicle Mix	% [2]								
Passenger Vehicles	78.6%		197	75	10	86	11	65	75
2-Axle Trucks	8.0%		20	8	2	9	1	7	8
3-Axle Trucks	3.9%		10	4	1	5	1	4	4
4+-Axle Trucks	9.5%		24	9	1	10	1	8	9
	ITE 110 Total (Non-PCE)		*251*	*96*	*14*	*110*	*13*	*83*	*96*
ITE 155- 65% split									
Vehicle Mix	% [3]								
Passenger Vehicles	55.3%		273	18	4	23	9	15	24
2-Axle Trucks	15.5%		77	5	1	6	3	4	7
3-Axle Trucks	4.9%		24	2	0	2	1	1	2
4+-Axle Trucks	24.3%		120	8	2	10	4	6	11
	ITE 155 Total (Non-PCE)		*494*	*33*	*8*	*41*	*17*	*27*	*44*
	Building Total		*745*	*129*	*22*	*151*	*30*	*110*	*140*
Total by Vehicle Classification									
	Passenger Vehicles		470	94	15	108	20	79	100
	Trucks		274	36	7	42	10	30	40
	Total Trip Generation (Non-PCE)		745	129	22	151	30	110	140
TRIP GENERATION SUMMARY (PCE, by Vehicle Classification)									
Vehicle Mix	PCE [4]								
Passenger Vehicles	1.0		470	94	15	108	20	79	100
2-Axle Trucks	1.5		145	20	5	24	6	16	22
3-Axle Trucks	2.0		68	11	2	12	3	11	14
4+-Axle Trucks	3.0		432	51	9	61	16	43	59
	Building Total (PCE)		*1,115*	*175*	*31*	*205*	*45*	*149*	*194*
Total by Vehicle Classification									
	Passenger Vehicles		470	94	15	108	20	79	100
	Trucks		644	82	16	97	24	69	95
	Total Trip Generation (PCE)		1,115	175	31	205	44	149	195

Notes: Rounding discrepancies may occur. TSF = Thousand Square Feet; PCE = Passenger Car Equivalent

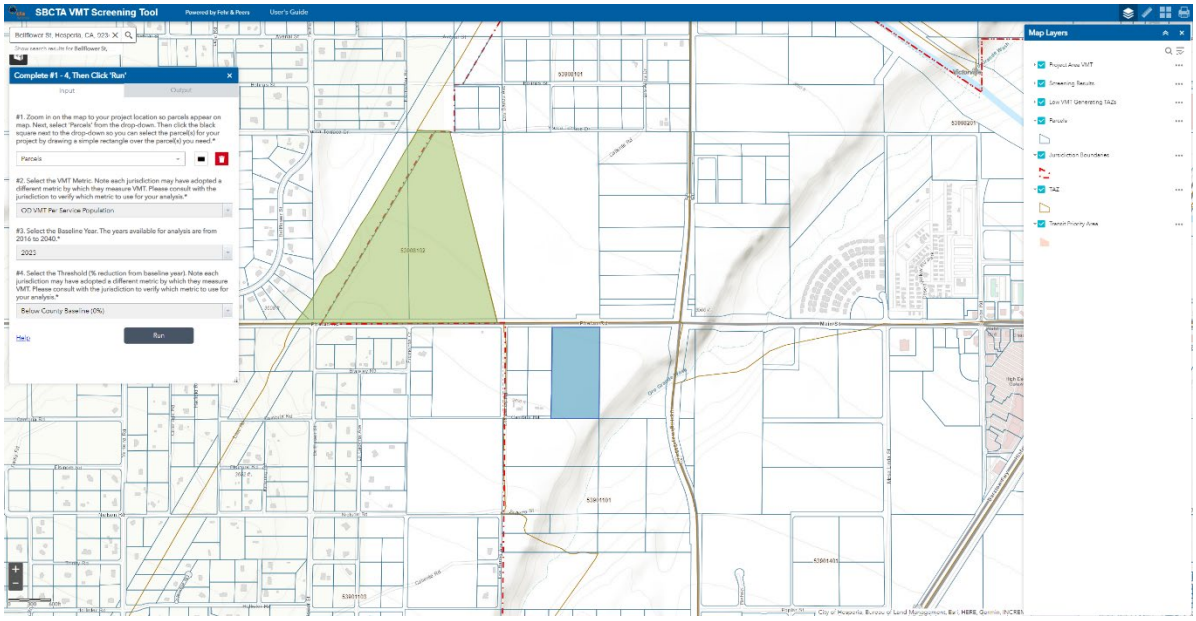
[1] Trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation, 11th Edition, 2021.*

[2] Vehicle Mix and Percent from the Fontana Truck Trip Generation Study, August, 2004.

[3] Vehicle mix and percent from SCAQMD Warehouse Truck Trip Study Data Results and Usage, July 17, 2014.

[4] Passenger Car Equivalent (PCE) factors from the San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016.

ATTACHMENT B
PROJECT TAZ LOCATION MAP


SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Complete #1 - 4, Then Click 'Run'
Input
Output
#1. Zoom in on the map to your project location so parcels appear on map. Next, select 'Parcels' from the drop-down. Then click the black square next to the drop-down so you can select the parcel(s) for your project by drawing a simple rectangle over the parcel(s) you need.*
Parcels
#2. Select the VMT Metric. Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
OD VMT Per Service Population
#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.*
2020
#4. Select the Threshold (% reduction from baseline year). Note each jurisdiction may have adopted a different metric by which they measure VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
Below County Baseline (0%)
Help
Run
Map Layers
Project Area VMT
Screening Results
Low VMT Generating TAZs
Parcels
Jurisdiction Boundaries
TAZ
Transit Priority Area