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SIERRA INDUSTRIAL VEHICLE MILES TRAVELED (VMT) ANALYSIS

Ms. Tracy Zinn,

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the Sierra industrial development (**Project**), which is located generally east of Sierra Avenue and south of Duncan Canyon Road in the City of Fontana.

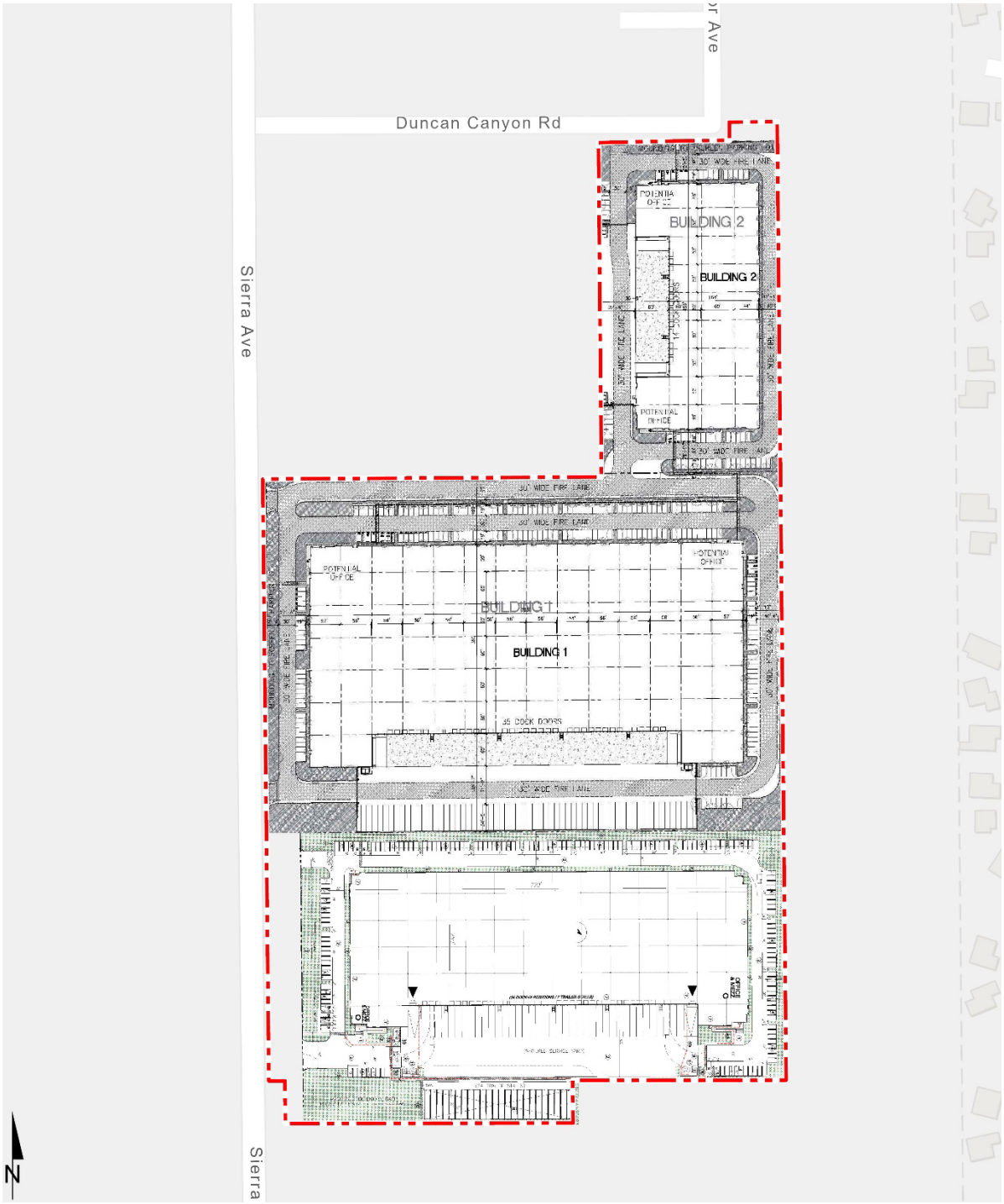
PROJECT OVERVIEW

The Project is proposed to consist of 2 project sites with a Project total of 585,042 square feet.

1. Acacia Site - consisting of two buildings: a 296,297 square foot warehouse building (Building 1) and a smaller 88,746 square foot warehouse building (Building 2) for a total of 385,043 square feet.
2. Shea Site - consisting of a single a 199,999 square foot warehouse building.

A preliminary site plan can be found in Exhibit 1.

EXHIBIT 1: PRELIMINARY SITE PLAN



BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which require all lead agencies to adopt VMT as a replacement for automobile delay-based level of service (LOS) as the measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December of 2018) (**Technical Advisory**) (1). Based on OPR's Technical Advisory, specific procedures for complying with the new CEQA requirements for VMT analysis, the City of Fontana adopted Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment (**City Guidelines**) (2), which documents the City's VMT analysis methodology and approved impact thresholds. The VMT screening evaluation presented in this report has been developed based on the adopted City Guidelines.

VMT SCREENING

The City Guidelines describe specific "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 project level VMT analysis. For the purposes of this analysis, the initial VMT screening process has been conducted with the SBCTA VMT Screening Tool (**Screening Tool**), which uses screening criteria consistent with the screening thresholds recommended in the City Guidelines. Screening thresholds are described in the following four steps:

- Step 1: Transit Priority Area (TPA) Screening
- Step 2: Low VMT Area Screening
- Step 3: Project Type Screening
- Step 4: Project net daily trips less than 500 ADT

Consistent with City Guidelines, a land use project needs only to satisfy one of the above screening thresholds to result in a less than significant impact.

STEP 1: TPA SCREENING

Consistent with City Guidelines, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"[1] or an existing stop along a "high-quality transit corridor"[2]) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;

[1] Pub. Resources Code, § 21064.3 ("'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.").
[2] Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or
- Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

Based on the Screening Tool results presented in Attachment A, the Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

TPA screening criteria is not met.

STEP 2: LOW VMT AREA SCREENING

As noted in the City Guidelines, "Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project 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." [3] The Screening Tool uses the sub-regional San Bernardino County Transportation Analysis Model (SBTAM) to measure VMT performance within San Bernardino County for individual traffic analysis zones (TAZ's) within each city. The Project's physical location based on APN is input into the Screening Tool to determine the VMT generated within the respective TAZ as compared to the jurisdictional average inclusive of a particular threshold (i.e., 15% below baseline County of San Bernardino VMT per employee). Based on the Screening Tool results, the Project is not located within a low VMT generating zone as compared to the City's adopted threshold of 15% below baseline County of San Bernardino VMT per employee. (See Attachment A).

Low VMT Area screening criteria is not met.

STEP 3: PROJECT TYPE SCREENING

The City Guidelines identify that local serving retail with buildings less than 50,000 square feet or other local serving essential services (e.g., day care centers, public schools, medical/dental office buildings, etc.) are presumed to have a less than significant impact absent substantial evidence to the contrary. The proposed Project is not considered a local serving use based on the examples provided in the City Guidelines.[4]

Low Project Type screening criteria is not met.

STEP 4: PROJECT NET DAILY TRIPS LESS THAN 500 ADT SCREENING

Projects that generate fewer than 500 net average daily trips (ADT) (stated in actual vehicles) are deemed to not cause a substantial increase in the total citywide or regional VMT and are therefore

[3] City Guidelines; Page 12.
[4] City Guidelines; Page 13.

presumed to have a less than significant impact on VMT. Substantial evidence in support of this daily trip threshold is documented in the City Guidelines.[5] The trip generation rates used for this analysis are based on the trip generation statistics published in the Institute of Transportation Engineer (ITE) Trip Generation Manual (11th Edition, 2021) (3). The proposed Project is estimated to generate 1,082 vehicle trip-ends per day, which would exceed the City's screening threshold of 500 ADT.

Project net daily trips less than 500 ADT screening criteria is not met.

As the Project was not found to meet any of the aforementioned VMT screening criteria, a project level VMT analysis is prepared to assess the Project's potential impact to VMT.

VMT ANALYSIS

VMT MODELING

City Guidelines identify SBTAM as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County. SBTAM is a useful tool to estimate VMT as it considers interactions between different land uses based on socio-economic data such as population, households, and employment. The calculation of VMT for land use projects is based on the total number of trips generated and the average trip length of each vehicle. SBTAM is also consistent with the model used to develop the City's VMT impact thresholds listed by the City Guidelines. Therefore, the vehicle trips and average daily trip length for project-related vehicle trips are model derived from SBTAM.

VMT METRIC AND SIGNIFICANCE THRESHOLD

Based on consultation with City Staff, for a single employment generating land use project in the City of Fontana shall use the VMT metric of VMT per employee as the appropriate measure in a VMT analysis. The City Guidelines have identified following recommended threshold:

- The baseline project generated VMT per employee exceeds 15% below the baseline County of San Bernardino VMT per employee, or
- The cumulative project generated VMT per employee exceeds 15% below the baseline County of San Bernardino VMT per employee.

SBCTA provides VMT calculations for each of its member agencies and for the baseline County of San Bernardino region. Urban Crossroads has obtained this published data from SBCTA, which for the County of San Bernardino is 17.1 VMT per employee. As outlined in the City Guidelines, a threshold of 15 percent below the regional baseline is 14.54 VMT per employee.

PROJECT LAND USE CONVERSION

In order to evaluate Project VMT, standard land use information must first be converted into a SBTAM compatible input data. The SBTAM model utilizes socio-economic data (SED) (e.g., population, households, employment, etc.) instead of land use information for the purposes of

[5] City Guidelines; Appendix B.

vehicle trip estimation. Project land use information such as building square footages must first be converted to SED (i.e., employment) for input into SBTAM. Employment density factors are derived by the Southern California Association of Governments (SCAG) Employment Density Study (October 2001) (4). Table 1 presents the estimated number of Project employees by land use type used to populate the SBTAM model for the proposed Project.

TABLE 1: EMPLOYMENT ESTIMATES

Land Use	Quantity (SF)	Employment Density Factor[6]	Estimated Employees
Warehouse	585,042	1,195 SF per employee	490

PROJECT GENERATED VMT PER EMPLOYEE CALCULATION

SBTAM was utilized to calculate Project generated VMT for the Project's proposed warehousing land uses. Those values were then divided by the Project's scenario specific employees in estimate to derive project generated VMT per employee. The VMT for all scenarios is then normalized by dividing by the Project TAZ's employees. The project generated VMT and VMT per employee was then calculated for baseline 2022 condition using straight-line interpolation of the base year and cumulative year results. As shown in Table 2, the Project Baseline VMT per employee is 19.41 and Project Cumulative VMT per employee is 16.40.

TABLE 2: PROJECT VMT PER EMPLOYEE

	Base Year (2016)	Cumulative Year (2040)	Baseline (2022)
Employees	490	490	490
VMT	10,005	8,036	9,513
VMT Per Employee	20.42	16.40	19.41

PROJECT COMPARISON TO SIGNIFICANCE THRESHOLD

Table 3 illustrates the comparison between Project generated VMT per capita in the Baseline and Cumulative Conditions to the City of Fontana's impact threshold. As shown, the Project would exceed the threshold of 15 percent below the baseline County of San Bernardino VMT per employee for both in the baseline or cumulative Project conditions. The Project VMT impact is therefore considered potentially significant.

TABLE 3: PROJECT VMT PER SP COMPARISON

	Baseline	Cumulative
Impact Threshold	14.54	14.54
Project	19.41	16.40
Percent Change	+33.49%	+12.79%
Potentially Significant?	Yes	Yes

[6] Table II-B of the SCAG Employment Density Study.

PROJECT'S CUMULATIVE EFFECT ON VMT

The City Guidelines consistent with the Technical Advisory states that cumulative impacts on VMT "… metrics such as VMT per capita or VMT per employee, i.e., metrics framed in terms of efficiency (as recommended below for use on residential and office projects), cannot be summed because they employ a denominator. A project that falls below an efficiency-based threshold that is aligned with long-term goals and relevant plans has no cumulative impact distinct from the project impact. Accordingly, a finding of a less-than-significant project impact would imply a less than significant cumulative impact, and vice versa. This is similar to the analysis typically conducted for greenhouse gas emissions, air quality impacts, and impact that utilize plan compliance as a threshold of significance." Since the Project was found to have a potentially significant impact at the project level, it is considered to have a potentially significant cumulative impact as well.

VMT REDUCTION STRATEGIES

Transportation Demand Management (TDM) strategies in the form of commute trip reduction program measures have been reviewed for the purpose of reducing Project related VMT impacts (i.e., commute trips) determined to be potentially significant. The level of effectiveness of each trip reduction measure has been determined based on the Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (CAPCOA, 2021) (**2021 Handbook**). As the future building tenants are not known for the Project, the effectiveness of each commute trip reduction measures may be limited. In addition to specific tenancy considerations, locational context is also a major factor relevant to the potential application and effectiveness of TDM measures. The three locational contexts identified by the 2021 Handbook are suburban, urban, and rural.[7] The locational context of the Project is characteristically suburban.

Under the most favorable circumstances and ideal conditions a project can realize a maximum reduction of 45% in commute VMT through implementation of the trip reduction program measures listed below.[8] However, ideal conditions are rarely realized as variables such as a projects locational context limitation (i.e., non-urban areas). Additionally, to achieve ideal conditions a project must achieve one hundred percent employee participation, and maximum employee eligibility, which are not generally expected. The proposed Project would require a minimum reduction of 33.49% to achieve a less than significant impact. The 2021 Handbook lists the following trip reduction measures. These measures can be implemented individually or grouped together to create either a voluntary or mandatory commute trip reduction (CTR) program.

- T-5 – Implement Commute Trip Reduction Marketing (*up to 4.0% reduction)*
- T-8 – Provide Ridesharing Program *(up to 8% reduction)*

[7] 2021 Handbook; Page 43
[8] 2021 Handbook; Page 61

- T-9 – Implement Subsidized or Discounted Transit Program *(up to 5.5% reduction)*
- T-10 – Provide End-of-Trip Facilities *(up to 4.4% reduction)*
- T-11 – Provide Employer-Sponsored Vanpool *(up to 20.4% reduction)*
- T-12 – Price Workplace Parking *(up to 20.0% reduction)*
- T-13 – Implement Employee Parking Cash-Out *(up to 12.0% reduction)*

Other regional transportation measures that may reduce VMT include but are not limited to improving/increasing access to transit, increasing access to common goods and service, or orientating land uses towards alternative transportation. These regional transportation measures may be infeasible at the project level but will generally be implemented as the surrounding communities develop. There is no means, however, to quantify any VMT reductions that could result from implementation. Additionally, the effectiveness of the CTR program measures listed above have potential to reduce the Project VMT are dependent on as yet unknown building tenant(s); and as noted above, VMT reductions from various CTR measures cannot be guaranteed.

CONCLUSION

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

- The Project's was evaluated against screening criteria as outlined in the City Guidelines. The Project was not found to meet any available screening criteria, and a model based VMT analysis was performed.
- The Project's VMT analysis found the Project to exceed the City's VMT per employee threshold by 33.49% in baseline conditions and 12.79% in cumulative conditions. The Project is determined to have a potentially significant transportation impact.
- Since the future tenants are unknown at this time, implementation of the feasible TDM measures discussed above cannot be guaranteed to reduce the Project generated VMT per employee; the Project's VMT impact is considered significant and unavoidable.

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

Respectfully submitted,

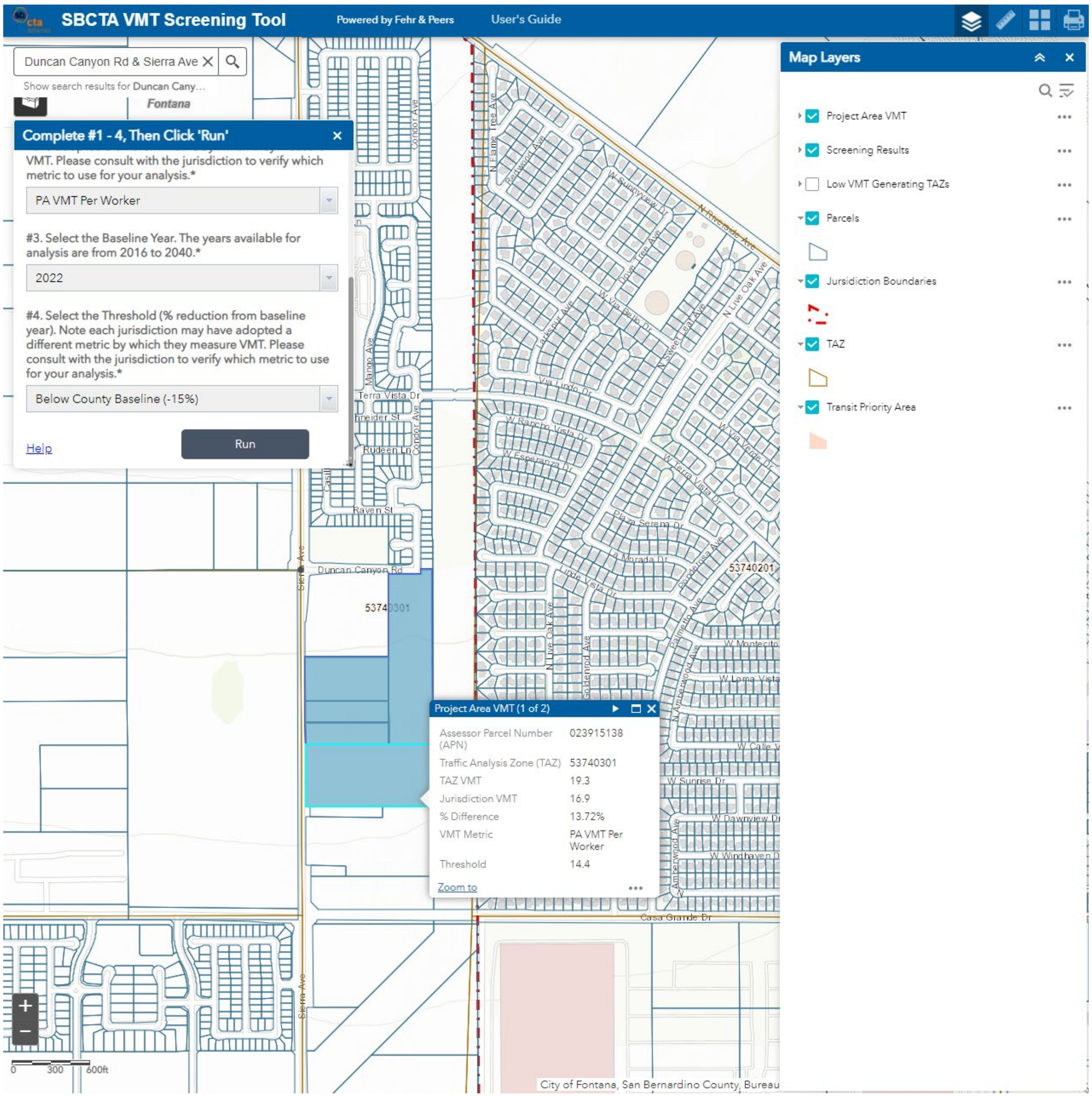
URBAN CROSSROADS, INC.

Alexander So
Senior Associate

REFERENCES

1. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
2. **City of Fontana Traffic Engineering Division.** *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* City of Fontana : s.n., October 2020.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 11th Edition. 2021.
4. **Southern California Association of Governments.** *Employment Density Study.* October 2001.

ATTACHMENT A
WRCOG SCREENING TOOL


SBCTA VMT Screening Tool
Powered by Fehr & Peers
User's Guide
Duncan Canyon Rd & Sierra Ave
Show search results for Duncan Cany...
Fontana
Complete #1 - 4, Then Click 'Run'
VMT. Please consult with the jurisdiction to verify which metric to use for your analysis.*
PA VMT Per Worker
#3. Select the Baseline Year. The years available for analysis are from 2016 to 2040.*
2022
#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 (-15%)
Help
Run
Map Layers
Project Area VMT
Screening Results
Low VMT Generating TAZs
Parcels
Jurisdiction Boundaries
TAZ
Transit Priority Area
Project Area VMT (1 of 2)
Assessor Parcel Number (APN) 023915138
Traffic Analysis Zone (TAZ) 53740301
TAZ VMT 19.3
Jurisdiction VMT 16.9
% Difference 13.72%
VMT Metric PA VMT Per Worker
Threshold 14.4
Zoom to
Duncan Canyon Rd
Casa Grande Dr
53740201
0 300 600ft
City of Fontana, San Bernardino County, Bureau

ATTACHMENT C
PROJECT TRIP GENERATION

TABLE 1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Warehousing[3]	TSF	150	0.131	0.039	0.170	0.050	0.130	0.180	1.710
Passenger Cars			0.116	0.034	0.150	0.042	0.108	0.150	1.110
2-Axle Trucks			0.002	0.001	0.003	0.003	0.002	0.005	0.100
3-Axle Trucks			0.002	0.002	0.004	0.003	0.003	0.006	0.124
4+-Axle Trucks			0.007	0.006	0.013	0.010	0.009	0.019	0.376
High-Cube Fulfillment Center (Non-Sort)[3]	TSF	155	0.122	0.028	0.150	0.062	0.098	0.160	1.810
Passenger Cars			0.105	0.025	0.130	0.059	0.091	0.150	1.580
2-Axle Trucks			0.002	0.001	0.003	0.001	0.001	0.002	0.038
3-Axle Trucks			0.002	0.002	0.004	0.001	0.001	0.002	0.048
4+-Axle Trucks			0.006	0.007	0.013	0.003	0.003	0.006	0.144
High-Cube Cold Storage Warehouse[3]	TSF	157	0.085	0.025	0.110	0.034	0.086	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.065	0.090	1.665
2-Axle Trucks			0.003	0.007	0.010	0.005	0.005	0.010	0.260
3-Axle Trucks			0.001	0.002	0.003	0.002	0.001	0.003	0.083
4+-Axle Trucks			0.005	0.011	0.016	0.008	0.008	0.016	0.113

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] TSF = thousand square feet

[3] Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.
Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

[4] PCE factors: 2-axle = 2.0; 3-axle = 2.5; 4+-axle = 3.0.

TABLE 2: TRIP GENERATION SUMMARY

Land Use	Quantity Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Warehousing (Building 2)	88.746 TSF							
Passenger Cars:		10	3	13	4	10	14	100
2-axle Trucks:		0	0	0	0	0	0	10
3-axle Trucks:		0	0	0	0	0	0	12
4+-axle Trucks:		1	0	1	1	1	2	34
Total Truck Trips (Actual Vehicles):		1	0	1	1	1	2	56
Total Trips (Actual Vehicles)[2]		11	3	14	5	11	16	156
High-Cube Cold Storage (10% Building 1 & Shea)	49.930 TSF							
Passenger Cars:		3	1	4	1	3	4	84
2-axle Trucks:		0	0	0	0	0	0	14
3-axle Trucks:		0	0	0	0	0	0	4
4+-axle Trucks:		0	1	1	0	0	0	6
Total Truck Trips (Actual Vehicles):		0	1	1	0	0	0	24
Total Trips (Actual Vehicles)[2]		3	2	5	1	3	4	108
High-Cube Fulfillment (Non-Sort) (90% Building 1)	449.367 TSF							
Passenger Cars:		47	11	58	27	41	68	712
2-axle Trucks:		1	1	2	0	0	0	18
3-axle Trucks:		1	1	2	0	0	0	22
4+-axle Trucks:		3	3	6	1	1	2	66
Total Truck Trips (Actual Vehicles):		5	5	10	1	1	2	106
Total Trips (Actual Vehicles)[2]		52	16	68	28	42	70	818
Passenger Cars:		**60**	**15**	**75**	**32**	**54**	**86**	**896**
Total Truck Trips (Actual Vehicles):		**6**	**6**	**12**	**2**	**2**	**4**	**186**
Total Project Trips (Actual Vehicles)[2]		**66**	**21**	**87**	**34**	**56**	**90**	**1,082**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.