URBAN CROSSROADS

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Ms. Sarah Bova
Thienes Engineering, Inc.
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SUBJECT: FIRST INDUSTRIAL WAREHOUSE VEHICLE MILES TRAVELLED (VMT) ANALYSIS

Dear Ms. Sarah Bova:

The following Vehicle Miles Travelled (VMT) Analysis has been prepared for the proposed First Industrial Warehouse (**Project**), which is located at the northeast corner of Alabama Street and Pioneer Avenue in the County of San Bernardino.

PROJECT OVERVIEW

The Project as addressed in this analysis consists of 460,537 square feet of High-Cube Fulfillment Center Warehouse (Non-Sort) use. Trips generated by the Project's proposed land uses have been estimated based on trip generation rates collected by the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, 2017. (1) The proposed Project is anticipated to generate a total of 840 vehicle trip-ends per day.

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 new measure for identifying transportation impacts for land use projects. This statewide mandate takes effect July 1, 2020.

It is our understanding that the County of San Bernardino utilizes the San Bernardino County Transportation Authority (SBCTA) VMT Screening Tool (**Screening Tool**). The Screening Tool allows users to input an assessor's parcel number (APN) to determine if a project's location meets one or more of the screening thresholds for land use projects identified in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (**Technical Advisory**). (2)

The focus of this memorandum is to more thoroughly evaluate each of the applicable screening thresholds to determine if the proposed Project would be expected to cause a less-than-significant impact to VMT without requiring a more detailed VMT analysis. If the screening thresholds are not met, then project-generated VMT will be calculated and compared to the applicable VMT threshold as identified in the San Bernardino County Transportation Impact Study Guidelines (**County Guidelines**) (3)

PROJECT SCREENING

The Technical Advisory 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. Screening thresholds are broken into the following four types:

- Project Type Screening
- Map Based Screening based on Low VMT Area
- Transit Priority Area (TPA) Screening
- Affordable Residential Development Screening

A land use project need only to meet one of the above screening thresholds to result in a less-than-significant impact.

PROJECT TYPE SCREENING

The Technical Advisory and San Bernardino County Guidelines notes projects that are consistent with the current Sustainable Communities Strategy (SCS) or general plan, and that generate or attract fewer than 110 trips per day are assumed to cause a less-than-significant impact. The proposed Project's 460,537 square feet of High-Cube Fulfillment Center Warehouse (Non-Sort) use would generate 840 vehicle trips per day. The trip generation summary is provided in Attachment A.

The Project Type screening threshold is not met.

LOW VMT AREA SCREENING

As noted in the Technical Advisory, "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." (2) The Screening Tool uses the sub-regional San Bernardino Transportation Analysis Model (SBTAM) to measure VMT performance within individual traffic analysis zones (TAZ's) within the region. The Project's physical location, based on parcel number, is input into the Screening Tool to determine project-generated VMT as compared to either a City or County average. The parcel containing the proposed Project was selected and the Screening Tool was run for Production/Attraction (PA) Home-Based Work VMT per Worker measure of VMT. Based on the Screening Tool results (see Attachment B), the Project TAZ did not return a result (i.e., the TAZ VMT value reported is null). Therefore, using the Screening Tool to determine whether the Project resides in a low VMT generating zone based on Home-Based Work VMT per Worker was not possible.

The Low VMT Area screening threshold is not met.

TPA SCREENING

Consistent with guidance identified in the Technical Advisory, 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;
- 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 B, the Project site is not located within ½ mile of an existing major transit stop, or along a high-quality transit corridor.

The TPA screening threshold is not met.

AFFORDABLE RESIDENTIAL DEVELOPMENT SCREENING

As noted in the Technical Advisory, "Adding affordable housing to infill locations generally improves jobs-housing match, in turn shortening commutes and reducing VMT." The Advisory goes on to state that "…a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT."

As the proposed Project does not include an affordable housing component, this screening criteria is not applicable.

The Affordable Residential Development Screening threshold is not met.

PROJECT VMT

The SBTAM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment. The County Guidelines identify SBTAM as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County.

[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.").

Consistent with County Guidelines, Project VMT has been calculated using the most current version of SBTAM. Adjustments to employment for the Project's TAZ were made to both the SBTAM base year model (2012) and the cumulative year model (2040), as shown in Table 1.

TABLE 1: EMPLOYMENT DENSITY FACTORS

	Project
Building Square Footage	460,537
Employment Density Factor[3]	1 employee/1,195 SF
Employment	385

Project-generated VMT was then calculated for both the base year model (2012) and cumulative year model (2040) and linear interpolation was used to determine the Project's baseline (2020) Home-based Work (HBW) VMT. The Project HBW VMT is then normalized by dividing by the number of Workers. As shown in Table 2, the Project baseline (2020) HBW VMT per Worker is 16.54.

TABLE 2: PROJECT HBW VMT

	Project
Population	0
Employment	385
HBW VMT	6,366
HBW VMT per Worker	16.54

SAN BERNARDINO COUNTY VMT

SBCTA provides VMT calculations for base model year and cumulative model year for each of its member agencies and the County. Urban Crossroads has obtained this data from SBCTA and has used linear interpolation to calculate the Unincorporated San Bernardino County HBW VMT per Worker for baseline (2020) conditions, which is 19.74.

PROJECT GENERATED VMT IMPACT ASSESSMENT

Table 3 illustrates the comparison between the 2020 Project generated HBW VMT per Worker to the 2020 Unincorporated San Bernardino County HBW VMT per Worker. As shown, the Project would be 16.2% below the existing HBW VMT per Worker for Unincorporated San Bernardino County, which meets the County's threshold of 4% below the existing VMT per person/worker for the Unincorporated County. As such, the Project's impact based on VMT is less-than-significant.

[3] Employee Density Factor was obtained from the Perris Valley Commerce Center Draft Environmental Impact Report (see Table 4.8-E, Development Intensity and Employee Projections, Page 4.8-46).

TABLE 3: HBW VMT PER WORKER COMPARISON

	HBW VMT per Worker
Project	16.54
City of Perris Threshold	19.74
Percent Change	-16.2%

CUMULATIVE VMT IMPACT ASSESSMENT

Consistent with County Guidelines, the cumulative impacts of a project should be evaluated if the project is not consistent with the adopted RTP/SCS. As the proposed Project is consistent with the adopted RTP/SCS, then the Project's cumulative impacts shall be less than significant.

If you have any questions, please contact me directly at (949) 336-5978.

Respectfully submitted,

URBAN CROSSROADS, INC.

Aric Evatt, PTP
President

Robert Vu, PE
Transportation Engineer

REFERENCES

1. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
2. **Office of Planning and Research.** *Technical Advisory on Evaluating Transportation Impacts in CEQA.* State of California : s.n., December 2018.
3. **San Bernardino County.** *Transportation Impact Study Guidelines.* July 2019.

ATTACHMENT A:
PROJECT TRIP GENERATION SUMMARY

Project Trip Generation Summary

Project 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
Actual Vehicles									
High-Cube Fulfillment Center (Non-Sort)[3]	TSF	155	0.122	0.029	0.150	0.062	0.098	0.160	1.810
Passenger Cars (AM-91.0%; PM-93.0%; Daily-N/A%)			0.111	0.026	0.137	0.058	0.091	0.149	1.620
2-Axle Trucks (AM-1.50%; PM-1.17%; Daily-N/A%)			0.002	0.000	0.002	0.001	0.001	0.002	0.032
3-Axle Trucks (AM-1.86%; PM-1.45%; Daily-N/A%)			0.002	0.001	0.003	0.001	0.001	0.002	0.039
4-Axle+ Trucks (AM-5.63%; PM-4.38%; Daily-N/A%)			0.007	0.002	0.008	0.003	0.004	0.007	0.119
Passenger Car Equivalent (PCE)									
High-Cube Fulfillment Center Warehouse (Non-Sort)[3]	TSF	155	0.122	0.029	0.150	0.062	0.098	0.160	1.810
Passenger Cars (AM-91.0%; PM-93.0%; Daily-N/A%)			0.111	0.026	0.137	0.058	0.091	0.149	1.620
2-Axle Trucks (AM-1.50%; PM-1.17%; Daily-N/A%) (PCE = 1.5)			0.003	0.001	0.003	0.001	0.002	0.003	0.048
3-Axle Trucks (AM-1.86%; PM-1.45%; Daily-N/A%) (PCE = 2.0)			0.005	0.001	0.006	0.002	0.003	0.005	0.079
4-Axle+ Trucks (AM-5.63%; PM-4.38%; Daily-N/A%) (PCE = 3.0)			0.021	0.005	0.025	0.008	0.013	0.021	0.357

Project Trip Generation									
Project	Quantity	Units[2]	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
Actual Vehicles									
High-Cube Fulfillment Center Warehouse (Non-Sort)	460.537	TSF							
Passenger Cars:			51	12	63	27	42	69	748
Truck Trips:									
2-axle:			1	1	2	1	1	2	16
3-axle:			2	1	3	1	1	2	20
4+-axle:			4	1	5	2	2	4	56
- Truck Trips			*7*	*3*	*10*	*4*	*4*	*8*	*92*
TOTAL TRIPS (Actual Vehicles)			***58***	***15***	***73***	***31***	***46***	***77***	***840***
Passenger Car Equivalent (PCE)									
High-Cube Fulfillment Center Warehouse (Non-Sort)	460.537	TSF							
Passenger Cars:			51	12	63	27	42	69	748
Truck Trips:									
2-axle:			2	1	3	1	1	2	22
3-axle:			3	1	4	1	2	3	38
4+-axle:			10	3	13	4	6	10	166
- Truck Trips			*15*	*5*	*20*	*6*	*9*	*15*	*226*
TOTAL TRIPS (PCE)			***66***	***17***	***83***	***33***	***51***	***84***	***974***

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition Supplement (February 2020).

[2] TSF = thousand square feet

[3] Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.

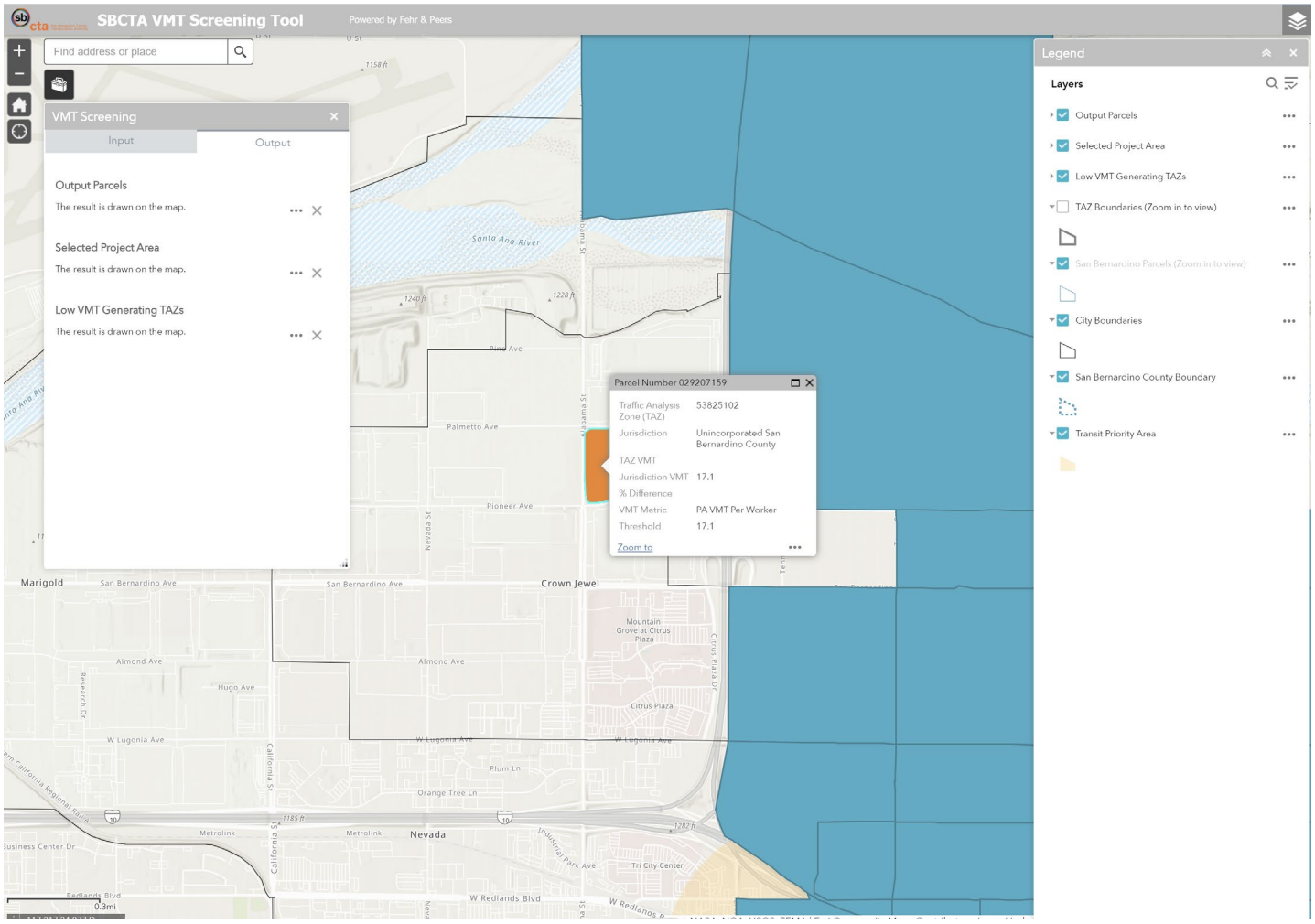
Truck Mix Source: South Coast Air Quality Management District (SCAQMD) Warehouse Truck Trip Study Data Results and Usage (2014).

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.

ATTACHMENT B:
SCREENING TOOL


SBCTA VMT Screening Tool
Powered by Fehr & Peers
Find address or place
VMT Screening
Input
Output
Output Parcels
The result is drawn on the map.
Selected Project Area
The result is drawn on the map.
Low VMT Generating TAZs
The result is drawn on the map.
Parcel Number 029207159
Traffic Analysis Zone (TAZ) 53825102
Jurisdiction Unincorporated San Bernardino County
TAZ VMT
Jurisdiction VMT 17.1
% Difference
VMT Metric PA VMT Per Worker
Threshold 17.1
Zoom to
Legend
Layers
Output Parcels
Selected Project Area
Low VMT Generating TAZs
TAZ Boundaries (Zoom in to view)
San Bernardino Parcels (Zoom in to view)
City Boundaries
San Bernardino County Boundary
Transit Priority Area
Santa Ana River
Marigold
Crown Jewel
Nevada
San Bernardino Ave
Almond Ave
W Lugonia Ave
W Redlands Blvd
Palmetto Ave
Pioneer Ave
Citrus Plaza
Tri City Center
Mountain Grove at Citrus Plaza