

Appendix K-2

Vehicle Miles Traveled Analysis



July 3, 2020

Mr. Collin Ramsey
Dudek
27372 Calle Arroyo
San Juan Capistrano, CA 92675

SUBJECT: HESPERIA COMMERCE CENTER II VEHICLE MILES TRAVELED (VMT) ANALYSIS

Dear Mr. Collin Ramsey:

The following VMT Analysis has been prepared for the proposed Hesperia Commerce Center II (Project), which is located north of Phelan Road and west of US Highway 395, in the City of Hesperia. US Highway 395 is located approximately 0.2 miles east of the Project site via Phelan Road.

PROJECT OVERVIEW

The proposed Project consist of the development of 3,745,429 square feet of high-cube fulfillment center warehouse and general light industrial 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 11,898 vehicle trip-ends per day. The site is currently designated as a Commercial/Industrial Business Park in the City of Hesperia General Plan.

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, which requires 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. 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**). (2) The San Bernardino County Transportation Authority (SBCTA) is currently conducting a multi-jurisdictional study to develop a set of procedures and provide local jurisdictions with sufficient information to adopt VMT baselines and thresholds of significance at or around the July 2020 required implementation date. In February 2020, the San Bernardino County Transportation Authority released the SBCTA [Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment](#) (**SBCTA Guidelines**) that address both traditional automobile delay-based level of service (LOS) and new VMT analysis requirements. (3)

PROJECT SCREENING

The SBCTA 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. 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

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 SBCTA Guidelines identifies 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. Based on information contained in the Project’s traffic study (4), the Project would generate more than 110 daily vehicle trips and would not be eligible to screen out based on project type screening.

The Project Type screening threshold is not met.

LOW VMT AREA SCREENING

As noted in the Technical Advisory and SBCTA Guidelines, 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 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 was input into the Screening Tool to determine the TAZ’s VMT as compared to the County average. A parcel within the proposed Project was selected and the Screening Tool was run for VMT per service population (i.e., population and employment) measure of VMT. Based on the Screening Tool results (see Attachment A), the Project is partially located within what appears to be a low VMT generating TAZ. However, further review of the TAZ (53908102) indicates that the socio-economic data within the zone contains no employment or population and review of adjacent TAZ’s that contain small amounts of employment and population generate VMT levels that exceed the County’s current average. SBCTA Guidelines note that to qualify the project land use must be consistent with the existing land use in the low VMT generating TAZ. As the existing TAZ contains no employment use, the Project would not qualify as residing in a low VMT area.

The Low VMT Area screening threshold is not met.

TPA SCREENING

Consistent with guidance identified in the Technical Advisory and SBCTA 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;
- 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.

VMT ANALYSIS METHODOLOGY

Through consultation with City of Hesperia staff, it is our understanding that the City of Hesperia has yet to adopt its own VMT analysis guidelines and thresholds. City staff have recommended the VMT threshold of better than existing regional VMT until the City of Hesperia adopts its own guidelines and thresholds.

PROJECT VMT

The San Bernardino Transportation Analysis Model (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 SBCTA Guidelines identifies SBTAM as the appropriate tool for conducting VMT analysis for land use projects in San Bernardino County.

Project VMT has been calculated using the most current version of SBTAM. Adjustments in socio-economic data (SED) (i.e., employment) have been made to a traffic analysis zone (TAZ) within the SBTAM model to reflect the Project’s proposed land uses (i.e., warehouse). Table 1 summarizes the

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.”).

employment estimates for the Project. It should be noted that the employment estimates are consistent with the employment density factors identified in the Southern California Association of Governments (SCAG) Employment Density Study (October 2001). (5)

TABLE 1: EMPLOYMENT ESTIMATES

Land Use	Quantity (in square feet)	Employment Density Factor ³	Estimated Employees
Warehouse	3,745,429	1 employee per 1,195 SF	3,134

Adjustments to employment factors for the Project TAZ were made to both the SBTAM base year model (2012) and the cumulative year model (2040). Project 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) VMT. The VMT is then normalized by dividing by the Project’s service population (SP) (e.g., employees). As shown in Table 2, the Project baseline (2020) VMT per SP is 39.25.

TABLE 2: PROJECT VMT PER SP

	Baseline 2020
Employment	3,134
VMT	123,022
VMT / SP ⁴	39.25

SAN BERNARDINO COUNTY VMT

SBCTA provides VMT calculations for each of its member agencies and for the County of San Bernardino region. Urban Crossroads has obtained this data from SBCTA which identifies that the existing San Bernardino County VMT per SP for is 32.66.

PROJECT LEVEL VMT ASSESSMENT

Table 3 illustrates the comparison between Project generated VMT per SP to the baseline (2016) regional (San Bernardino County) VMT per SP, which was derived from the SBTAM base year model by SBCTA and their consultant. As shown, the Project would exceed the current threshold of the baseline County of San Bernardino VMT per SP. The Project VMT impact is therefore considered potentially significant.

³ Table II-B of the SCAG Employment Density Study.

⁴ Since the Project does not have a residential component, the service population consists entirely of employment.

TABLE 3: PROJECT VMT PER SP COMPARISON

	Baseline (2020) VMT/SP
Project	39.25
San Bernardino County Regional Baseline (2016)	32.66
Percent Change	+18.58%
Below the Regional Baseline?	No

PROJECT’S POTENTIAL CUMULATIVE IMPACT ON VMT

The Technical Advisory states the following, “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 impacts that utilize plan compliance as a threshold of significance.”⁵ Therefore, the Project’s finding related to cumulative impacts is considered potentially significant.

VMT REDUCTION STRATEGIES

Transportation demand management (TDM) strategies have been evaluated for reducing VMT impacts determined to be potentially significant. The effectiveness of TDM strategies to reduce VMT has been determined based on the SB 743 Implementation TDM Strategy Assessment (November 11, 2019, Fehr & Peers) prepared for SBCTA. The memo evaluated 50 transportation measures presented in the CAPCOA 2010 report *Quantifying Greenhouse Gas Mitigation Measures* and indicated 41 are applicable at building and site level. The remaining measures are functions of, or depend on, site location and/or actions by local and regional agencies or funders. Review of the 41 transportation measures identified by CAPCOA, indicates that only 7 of those measures may be effective at the project level, which is consistent with SBCTA findings. Evaluation of potentially applicable TDM strategies in the context of the Project were reviewed.

The effectiveness of the TDM measures would be dependent in part on final Project designs and tenant occupancies, which are unknown at this time. Beyond Project design and tenancy considerations, land use context is a major factor relevant to the potential application and effectiveness of TDM measures. More specifically, the land use context of the Project is characteristically suburban. Of itself, the Project’s suburban context acts to reduce the range of feasible TDM measures and moderates their potential effectiveness.

Based on available research, for projects located within a suburban context, a maximum 10% reduction in VMT is achievable when combining multiple mitigation strategies. Furthermore, to even achieve a 10%

⁵ Page 6 of the OPR’s Technical Advisory.

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reduction in VMT, a project would need to contain a diverse land use mix, workforce housing and project-specific transit options. Even under the most favorable circumstances, projects located within a suburban context, such as the proposed Project evaluated here, could realize a maximum 10 percent reduction in VMT through implementation of feasible TDM measures. For the Project considered here, this could result in reduction from 39.25 to 35.33 Total VMT per SP which would still exceed the regional threshold of 32.66 Total VMT per SP by 8.2%.

In summary, the Project's Total VMT per SP exceeds the regional (San Bernardino County) threshold of better than existing Total VMT per SP. Even with implementation of maximum feasible TDM measures, Project VMT cannot be reduced to levels that would be less-than-significant. However, the efficacy of TDM measures and reduction of VMT impacts below thresholds cannot be assured. The Project VMT impact is therefore considered ***significant and unavoidable***.

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

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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 Authority (SBCTA).** *Recommended Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and Level of Service Assessment.* February 2020.
4. **Urban Crossroads, Inc.** *Hesperia Commerce Center II.* June 2020.
5. **Southern California Association of Governments.** *Employment Density Study.* October 2001.

ATTACHMENT A

SBCTA VMT Screening Tool Powered by Febr & Peers

Find address or place

VMT Screening

Input Output

Output Parcels
The result is drawn on the map. ... X

Selected Project Area
The result is drawn on the map. ... X

Low VMT Generating TAZs
The result is drawn on the map. ... X

Parcel Number 306436101 (2 of 2)

Traffic Analysis Zone (TAZ) 53908102

Jurisdiction Hesperia

TAZ VMT 10.2

Jurisdiction VMT 32.2

% Difference -68.46%

VMT Metric OD VMT Per Service Population

Threshold 32.2

[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

117.403, 34.430 Degrees

Output Parcels Selected Project Area Low VMT Generating TAZs San Bernardino Parcels (Zoom in to view) City Boundaries San Bernardino County Boundary Transit Priority Area

Options Filter by map extent Zoom to Clear selection Refresh

OBJECTID	TAZ	VMT Metric	TAZ VMT	Community Region VMT	Threshold	% Difference	Results	Shape_Length	Shape_Area
601	53,908,102	OD VMT Per Service Population	10.17	32.24	32.20	-68.46%	Yes (Pass)	9,180.11	4,253,710.73

1 features 0 selected

