MEMORANDUM

URBAN CROSSROADS

DATE: March 8, 2024
TO: Tracy Zinn, T&B Planning, Inc.
FROM: Alex So, Urban Crossroads, Inc.
JOB NO: 14057-02 VMT

5TH AND STERLING AVENUE VEHICLE MILES TRAVELED (VMT) ANALYSIS

Urban Crossroads, Inc. is pleased to provide the following Vehicle Miles Traveled (VMT) Analysis for the 5th and Sterling Avenue (**Project**), which is located on the northeast corner of Sterling Avenue and 5th Street, in the City of San Bernardino.

PROJECT OVERVIEW

The Project consists of the development of a 557,000 square foot industrial warehouse building. A site plan can be found in Attachment A.

BACKGROUND

Changes to California Environmental Quality Act (CEQA) Guidelines were adopted in December 2018, requiring 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 went into effect July 1, 2020, consistent with Senate Bill 743 (SB 743). To comply with SB 743, the City of San Bernardino has developed and adopted their City of San Bernardino Traffic Impact Analysis Guidelines (August 2020) (**City Guidelines**) (1). This VMT analysis has been developed based on the adopted City Guidelines.

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.[1]
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). SBTAM is also consistent with the model used to develop the City's VMT impact thresholds identified in the City Guidelines.

VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines identifies VMT per service population (i.e., population and employees) as the measure of potential impact within the City of San Bernardino. VMT per service population is an efficiency metric that allows a project's VMT to be compared to the remainder of the City. Projects found to increase the average VMT per service population within the City may be deemed to have a significant impact. 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 City of San Bernardino General Plan Buildout VMT per service population, or

[1] Low VMT Area screening is not applicable in this case, as the land use information represented in the TAZ containing the Project is not consistent with that proposed by the Project (i.e., industrial warehouse). Therefore, disqualifying the Project from this screening criteria.

2. The cumulative project generated VMT per service population exceeds the City of San Bernardino General Plan Buildout VMT per service population.

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

1. The cumulative link-level boundary VMT per service population within the City of San Bernardino 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 City of San Bernardino General Plan Buildout VMT per service population is **31.6**.

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[2]	Estimated Employees
Warehouse	557,000 SF	1,195 SF per Employee	466

PROJECT VMT CALCULATION AND COMPARISON TO IMPACT THRESHOLD

ORIGIN/DESTINATION VMT METHOD

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 to derive the efficiency metric VMT per service population, which is then compared to the remainder of the City for purposes of identifying a potential impact.

Table 3 presents Project generated total OD VMT and the resulting total OD VMT per service population for both Baseline (2023) and Cumulative (2040) conditions. As shown in Table 3, the Project would generate total 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.

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

TABLE 3: PROJECT GENERATED TOTAL VMT PER SERVICE POPULATION

	Baseline	Cumulative
Service Population[3]	466	466
Total OD VMT	28,097	35,405
OD VMT per Service Population	60.3	76.0
City Threshold	31.6	31.6
Potentially Significant?	Yes	Yes

BOUNDARY VMT METHOD

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 within a designated boundary (i.e., City boundary or a regional area if the project is located at the City's edge). In this case, the Project's location is in the edge of the City of San Bernardino and the suitable boundary would be a 10-mile radius of the Project's location so that Project trips are not truncated nor omitted by the City boundary.

The boundary method estimates VMT by multiplying vehicle trips on each roadway segment within the boundary by that segment's length. This approach consists of all trips, including those trips that do not begin or end in the designated boundary.

Table 4 presents total VMT calculated using the boundary method for No Project and With Project Cumulative conditions. Boundary VMT per service population remains unchanged under With Project scenario as compared to the No Project scenario. Resulting in a less than significant Cumulative Effect VMT impact.

TABLE 4: CUMULATIVE BOUNDARY VMT RESULTS

	10-Mile Boundary	
Scenario	No Project	With Project
Service Population	991,840	992,306
Boundary VMT	15,491,310	15,487,934
VMT per Service Population	15.6	15.6
Change in VMT per Service Population	0.0	
Potentially Significant?	No	

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

POTENTIAL VMT REDUCTION STRATEGIES

Potential commute trip reduction measures have been considered for the purpose of reducing Project related Work VMT impacts (i.e., commute trips) determined to be potentially significant. As future tenants are not known for the Project, the effectiveness of potential commute trip reduction measures may be limited. The following measures have the potential to reduce commute VMT, although no quantified benefit is taken at this time:

- Future building tenants(s) could implement a Voluntary Commute Trip Reduction (CTR) program. The purpose of the CTR program would be to encourage alternative modes of transportation such as carpooling, which would help to reduce commute VMT. Such a program would likely include on-site and/or online commute information services such as available transit and ride coordination for employees.
- Future building design features could 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.
- Future building design could include end-of-trip facilities such as bicycle parking, lockers, etc., which could encourage employees to use alternative modes of transportation and thus reduce VMT.
- Future building design could include on-site electric vehicle charging stations beyond what is required by the 2019 California Green Building Code Standards (CALGreen) at designated parking areas. Although this measure would not directly reduce VMT, it would reduce greenhouse gas (GHG) emissions.
- Future building design could include sidewalks along the 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.

SUMMARY

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

- The Project was evaluated against 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.
- The Project's VMT analysis found the Project to exceed the City's adopted impact threshold.
- The Project's Cumulative Effect on VMT was found to not change the City's VMT per service population with the inclusion of the Project.
- Even with the implementation of commute trip reduction measures described previously in this analysis, 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.

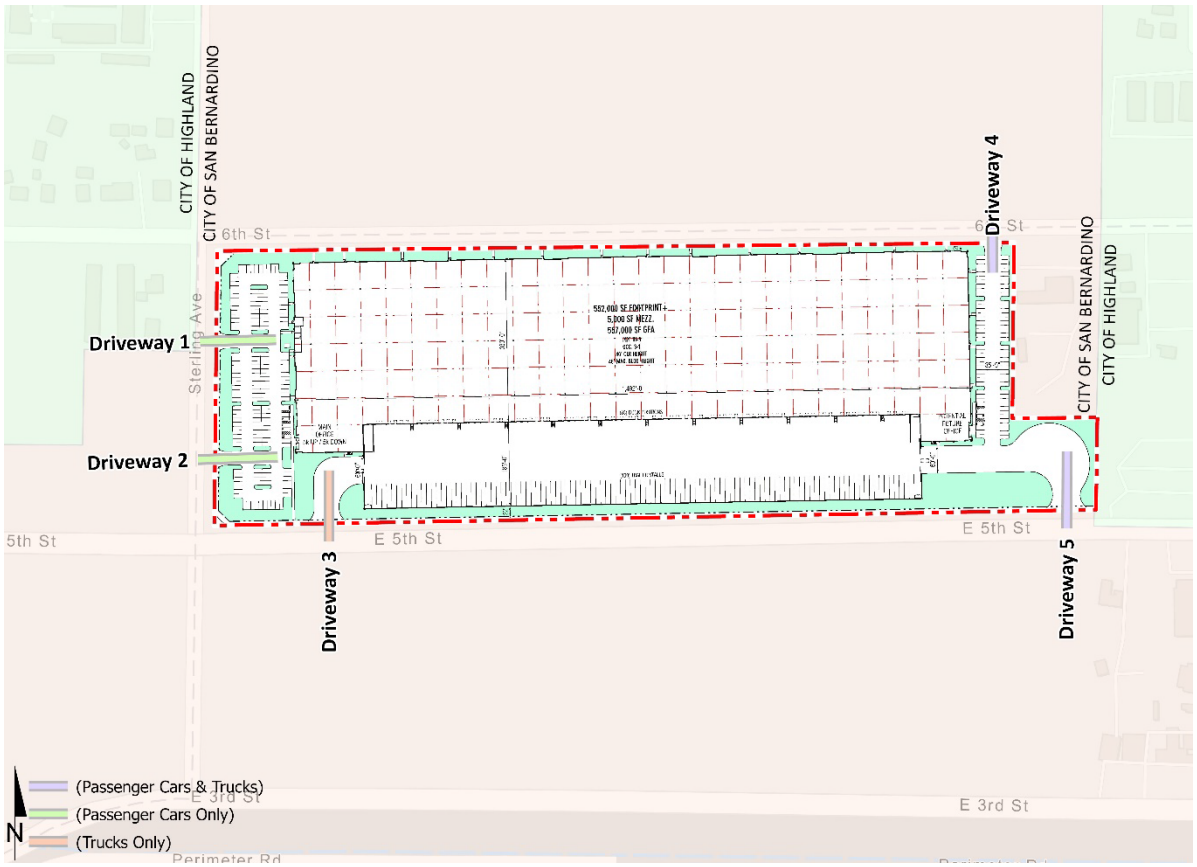
If you have any questions, please contact me directly at aso@urbanxroads.com.

REFERENCES

1. **City of San Bernardino.** *City of San Bernardino Traffic Impact Analysis Guidelines.* City of San Bernardino : s.n., August 2020.

ATTCHMENT A

PRELIMINARY SITE PLAN


CITY OF HIGHLAND
CITY OF SAN BERNARDINO
6th St
Driveway 4
Driveway 1
Sterling Ave
Driveway 2
CITY OF SAN BERNARDINO
CITY OF HIGHLAND
5th St
E 5th St
Driveway 3
Driveway 5
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