



HEXAGON TRANSPORTATION CONSULTANTS, INC.



2791 Winton Avenue Warehouse Development



Transportation Analysis – CEQA Analysis

Prepared for:

City of Hayward



January 25, 2021



Hexagon Transportation Consultants, Inc.

Hexagon Office: 4 North Second Street, Suite 400
San Jose, CA 95113

Phone: 408.971.6100

City of Hayward Application #: 201908318

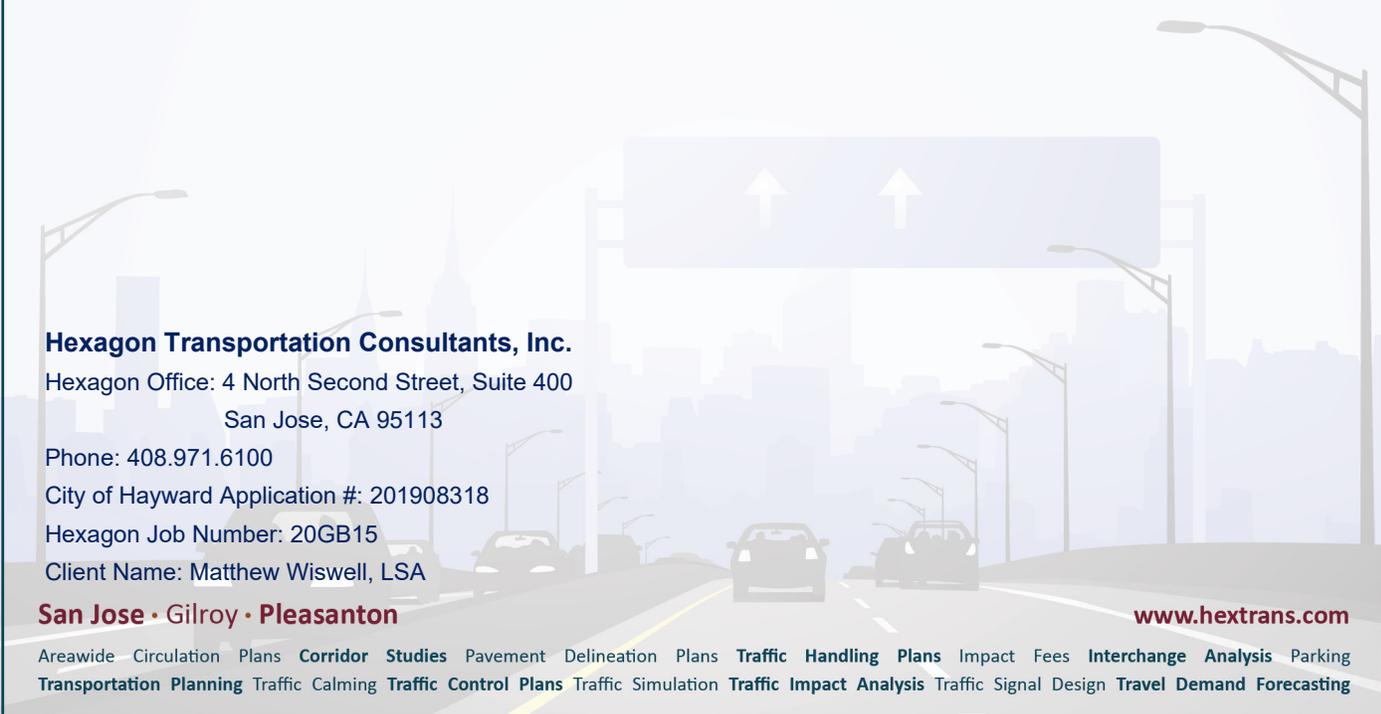
Hexagon Job Number: 20GB15

Client Name: Matthew Wiswell, LSA

San Jose • Gilroy • Pleasanton

www.hextrans.com

Areawide Circulation Plans Corridor Studies Pavement Delineation Plans Traffic Handling Plans Impact Fees Interchange Analysis Parking
Transportation Planning Traffic Calming Traffic Control Plans Traffic Simulation Traffic Impact Analysis Traffic Signal Design Travel Demand Forecasting



This report includes an analysis of Vehicle Miles Travelled (VMT) and an evaluation of potential impacts to transit, pedestrian, and bicycle facilities for 2791 Winton Avenue, as required by the California Environmental Quality Act (CEQA).

Project Description

This report presents the results of the transportation analysis (TA) conducted for the proposed Amazon Distribution Center development at 2791 W. Winton Avenue in Hayward, California. Amazon would occupy an existing 507,000 square-foot warehouse to operate an Amazon Delivery Station. Access to the site is provided by three driveways on Winton Avenue.

The potential project related transportation deficiencies were evaluated in accordance with the standards and methodologies set forth by the City of Hayward. The study evaluates the potential impacts on vehicle miles traveled (VMT).

Project Trip Generation Estimates

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed project site was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that quantify the amount of traffic produced by many types of land uses. The research is compiled in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition* (2017). The rates published for High-Cube Fulfillment Center Warehouse (Land Use 155) were used to estimate the trips generated by the proposed project. The ITE does not provide in/out percentage split for High-Cube Fulfillment Center Warehouse. Therefore, it is assumed that 50% of the trip generation rate will enter and 50% of the trip generation rate will exit. This is consistent with Amazon's operational model.

As shown in Table 1, the project is estimated to generate 4,151 daily vehicle trips, with 299 trips occurring during the AM peak hour and 695 trips during the PM peak hour.

Table 1
Project Trip Generation Estimates

Proposed Uses	ITE Land Use Code	Size	Daily		AM Peak Hour			PM Peak Hour				
			Rate	Trip	Trip		Rate	Trip				
					In	Out		Total	In	Out	Total	
Warehouse ^{1,2}	155	507,500 Square Feet	8.18	4,151	0.59	150	149	299	1.37	348	347	695

Notes:
¹ Land Use Code 155: High-Cube Fulfillment Center Warehouse (average rates expressed in trips per 1,000 s.f.)
² ITE does not provide the in/out percentage split for High-Cube Fulfillment Center Warehouse. It is assumed that 50% of the trip generation rate will enter and 50% of the trip generation rate will exit.

Trip Distribution and Assignment

The trip distribution pattern for the project was estimated based on existing travel patterns on the surrounding roadway network and the locations of complementary land uses and under direction of the City of Hayward based on the City's General Plan Update Travel Demand Model. The trip distribution pattern for the project is shown on Figure 1. The peak-hour trips generated by the project were assigned to the roadway network in accordance with the project trip distribution pattern. Figure 2 shows the assignment of net project trips at each study intersection.

A tabular summary of project traffic at each study intersection is contained in Appendix B of the Local Transportation Assessment (LTA).

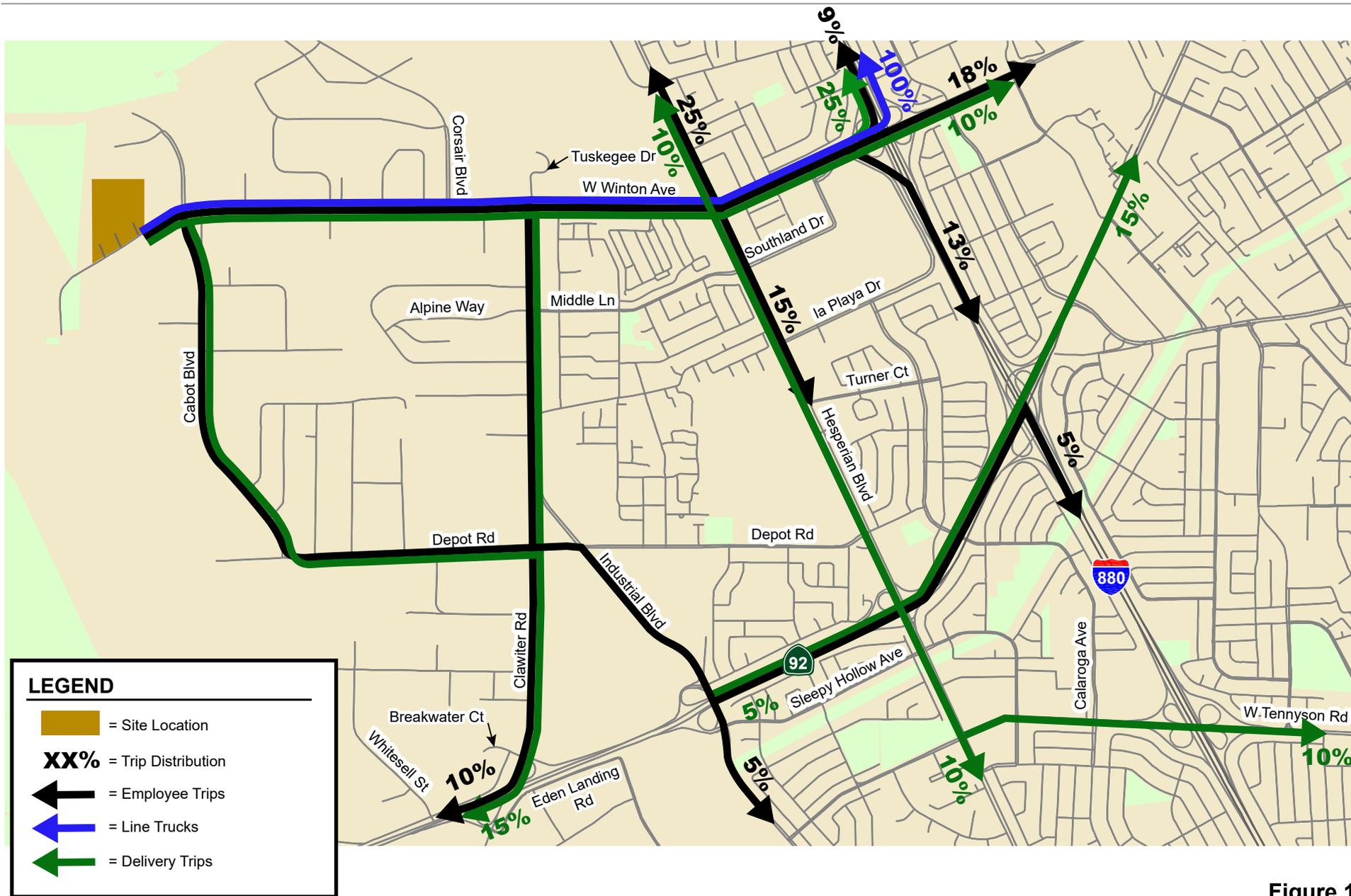
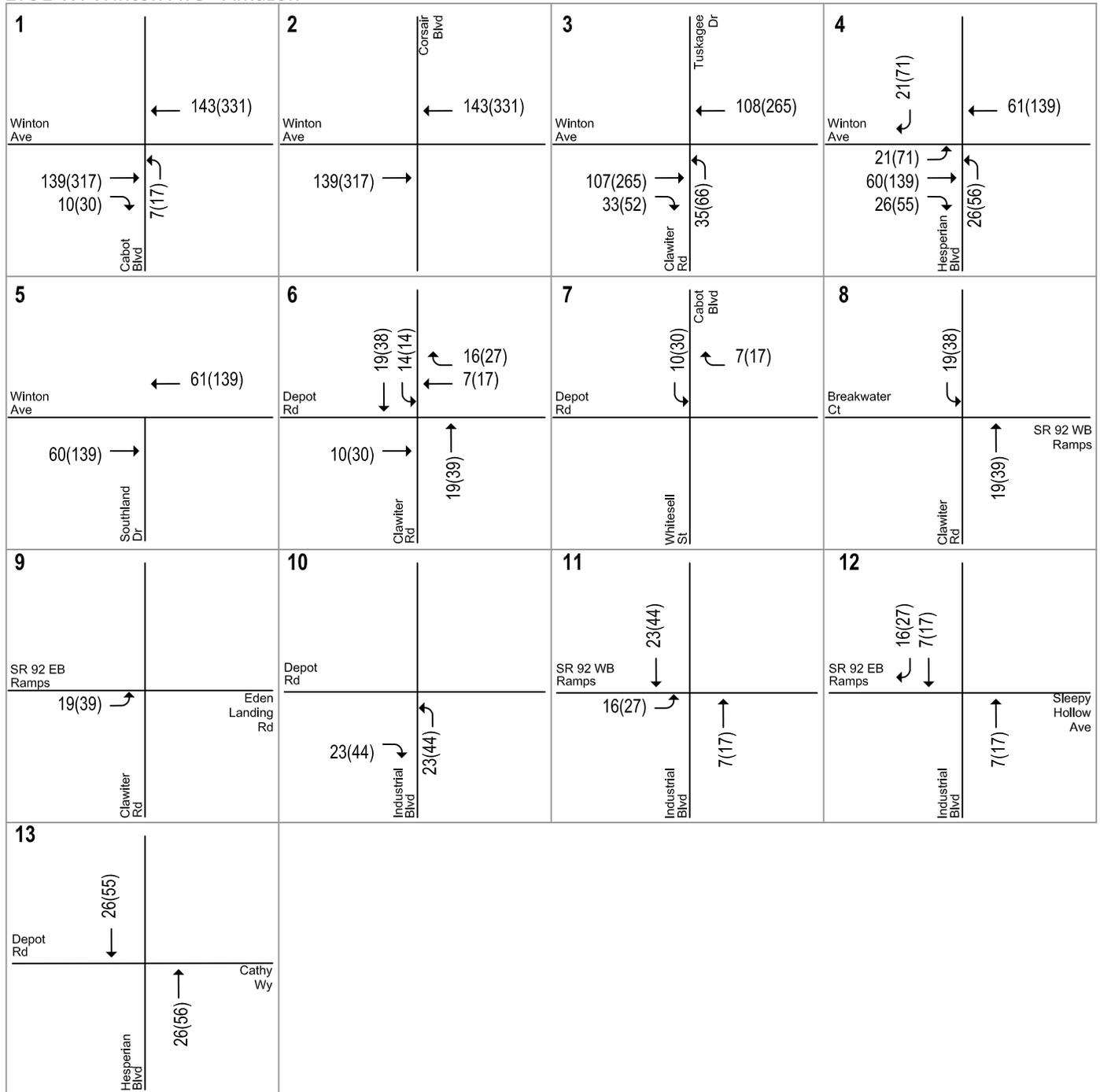


Figure 1
Project Trip Distribution

2791 W. Winton Ave - Amazon



LEGEND

XX(X) = AM(PM) Peak-Hour Trips

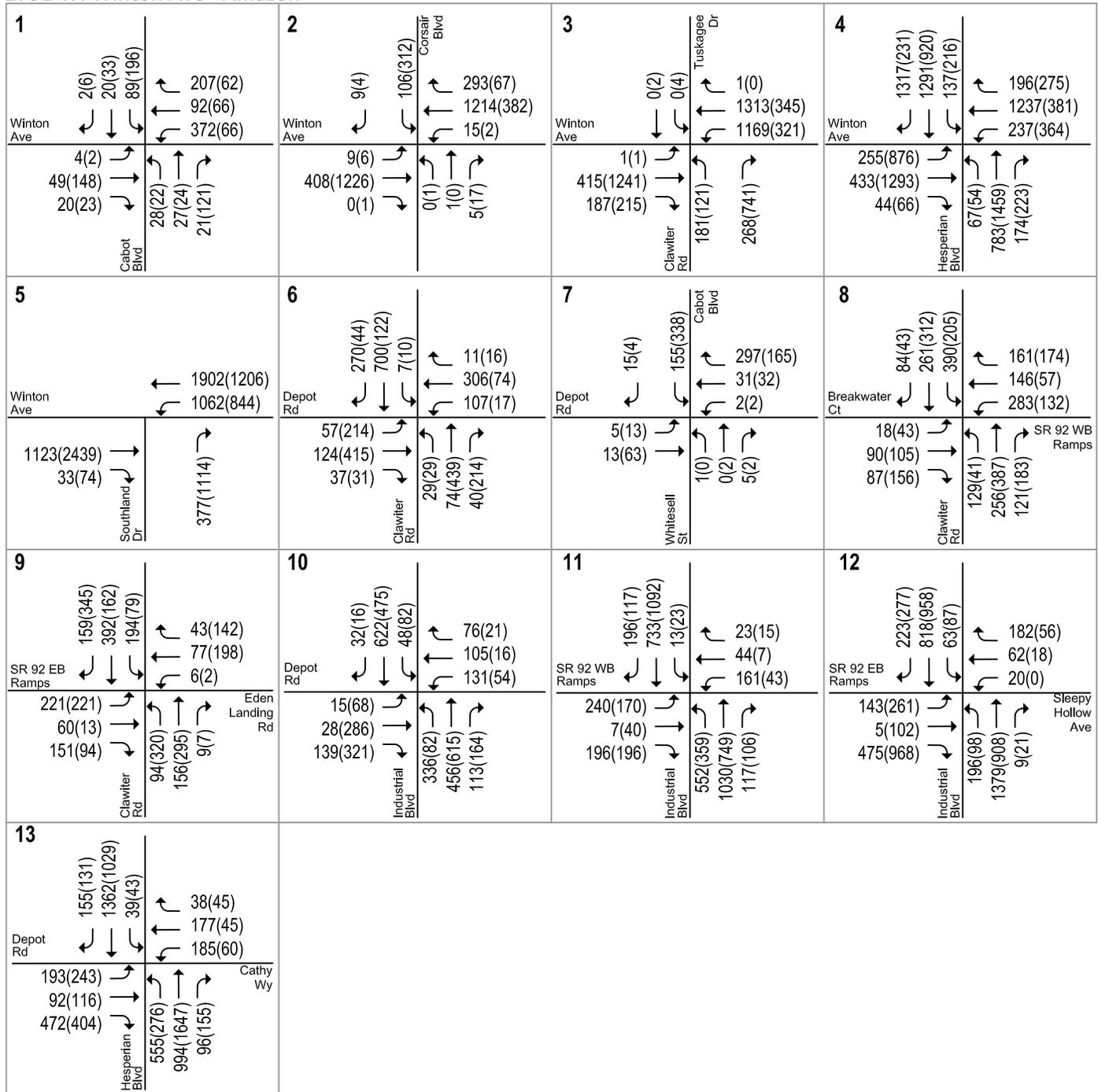
Figure 2
Project Trip Assignment

Cumulative and Cumulative Plus Project Traffic Volumes

Cumulative traffic volumes for the study intersections (see Figure 3) were estimated by applying a growth factor of 1% per year through the year 2040 (20 years) to represent cumulative traffic growth in the area. The growth factor was derived from the Hayward General Plan Update travel demand model.

Project trips were added to cumulative traffic volumes to obtain cumulative plus project traffic volumes (see Figure 4).

2791 W. Winton Ave - Amazon

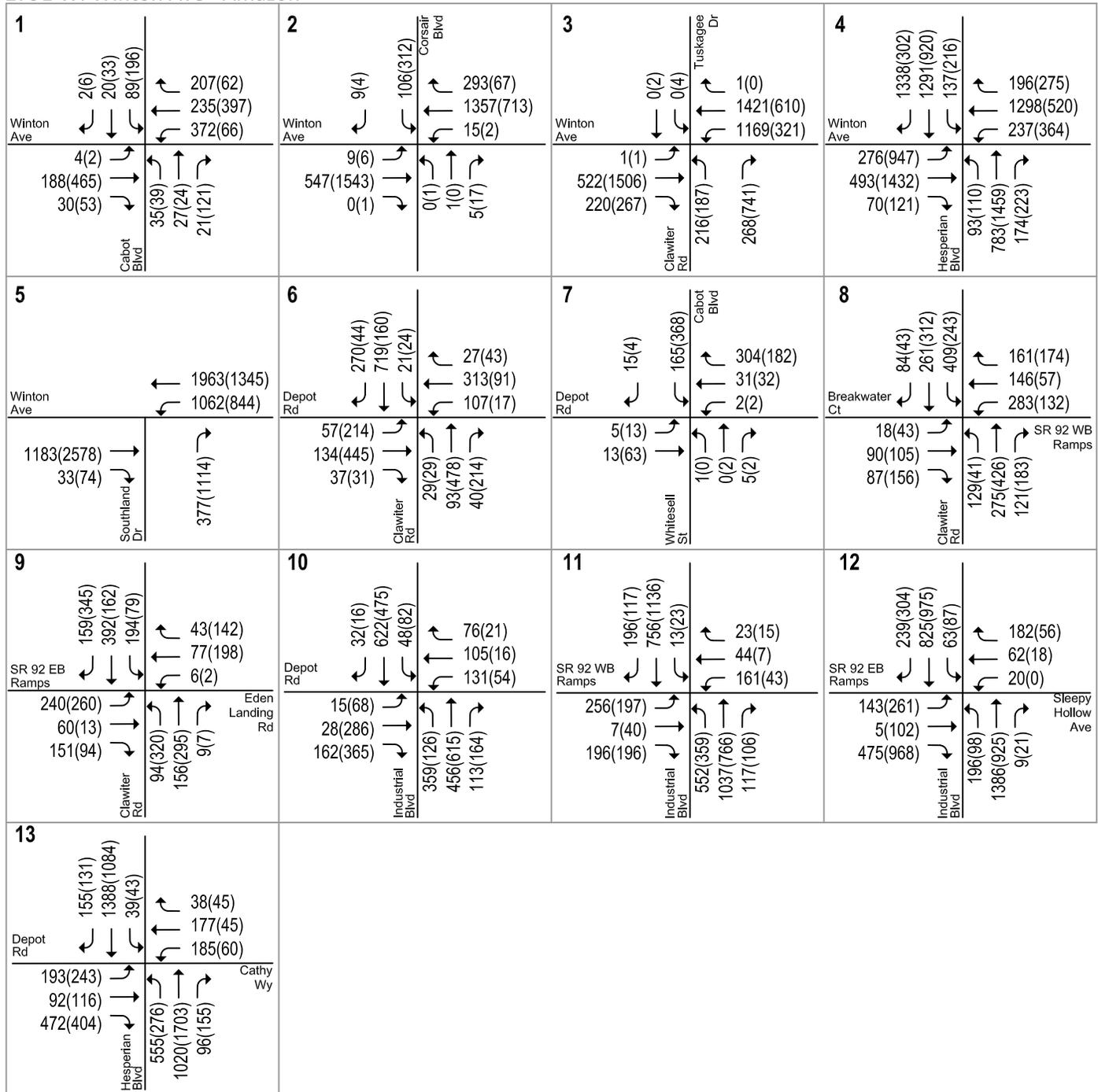


LEGEND

XX(X) = AM(PM) Peak-Hour Traffic Volumes

Figure 3
Cumulative Traffic Volumes

2791 W. Winton Ave - Amazon



LEGEND

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 4
Cumulative Plus Project Traffic Volumes

VMT Analysis

Pursuant to SB 743, the CEQA 2019 Update Guidelines Section 15064.3, subdivision (b) states that vehicle miles travelled (VMT) will be the metric in analyzing transportation impacts for land use projects for CEQA purposes. The City of Hayward adopted a resolution with amendments to the Hayward 2040 General Plan establishing new VMT thresholds for California Environmental Quality Act (CEQA) analysis, consistent with SB 743 on June 16th, 2020. Per the City of Hayward's VMT screening criteria for industrial uses "Industrial employment land use projects located in areas with below regional average VMT per employee and/or within a half mile of a major transit stop or corridor and that include low VMT-supporting features will produce low VMT per employee. This is based on a threshold of average VMT per capita, rather than 15% below average VMT per employee, as applies to other employment land uses."

The average VMT per employee for industrial land uses in the City of Hayward is 18.20. As shown in Figure 5, the project is located in a zone where the average VMT per employee is higher than the average threshold VMT per employee (19.74). Since the project is located in a zone where the average VMT per employee is higher than the citywide average, the project would result in a significant impact, and mitigation would be required for the employee trips unless the project introduces TDM measures and incorporates the measures as part of the project.

In addition to the employee trips, the project includes trips by the delivery vans to customers throughout Hayward. These types of trips are not addressed in the City's adopted VMT policy nor is it addressed in the Office of Planning and Research (OPR) guidelines. However, a qualitative evaluation of VMT for the delivery trips is included below.

Employees

The VMT for the employee trips will need to be reduced in order to mitigate the potential VMT impact. This can be done by encouraging employees to use alternatives to single-occupant trips, such as carpooling, transit, and bicycling. The project should develop and submit a transportation demand management (TDM) and monitoring plan to describe what programs it would implement to reduce VMT and how those programs would be monitored for adherence.

The VMT for the employee trips can be reduced by encouraging employees to use alternatives to single-occupant trips, such as carpooling, transit, and bicycling.

Carpooling reduces the number of vehicles on the road. Employees travelling to the project site could carpool to reduce the VMT of the project. The project could provide a carpool matching service for its employees.

Currently there is a local bus route (Route 86) that provides service between the Hayward BART station and the South Hayward BART station. The closest bus stop is located on West Winton Avenue near Cabot Boulevard approximately one quarter mile from the project site. Employees using transit to arrive to the project site could result in a reduction in VMT. Amazon could provide a financial incentive to encourage its employees to use transit, including providing employees with free transit passes.

There are bike routes within the project site. These bike routes are located along Cabot Boulevard between West Winton Avenue and Depot Road, Depot Road between Cabot Boulevard and Hesperian Boulevard, Clawiter Road between West Winton Avenue and Arden Road, and Industrial Boulevard between Clawiter Road and Industrial Parkway. These shared bike routes would encourage employees to bike to the project site, reducing the VMT. Amazon could provide bicycle parking for its employees

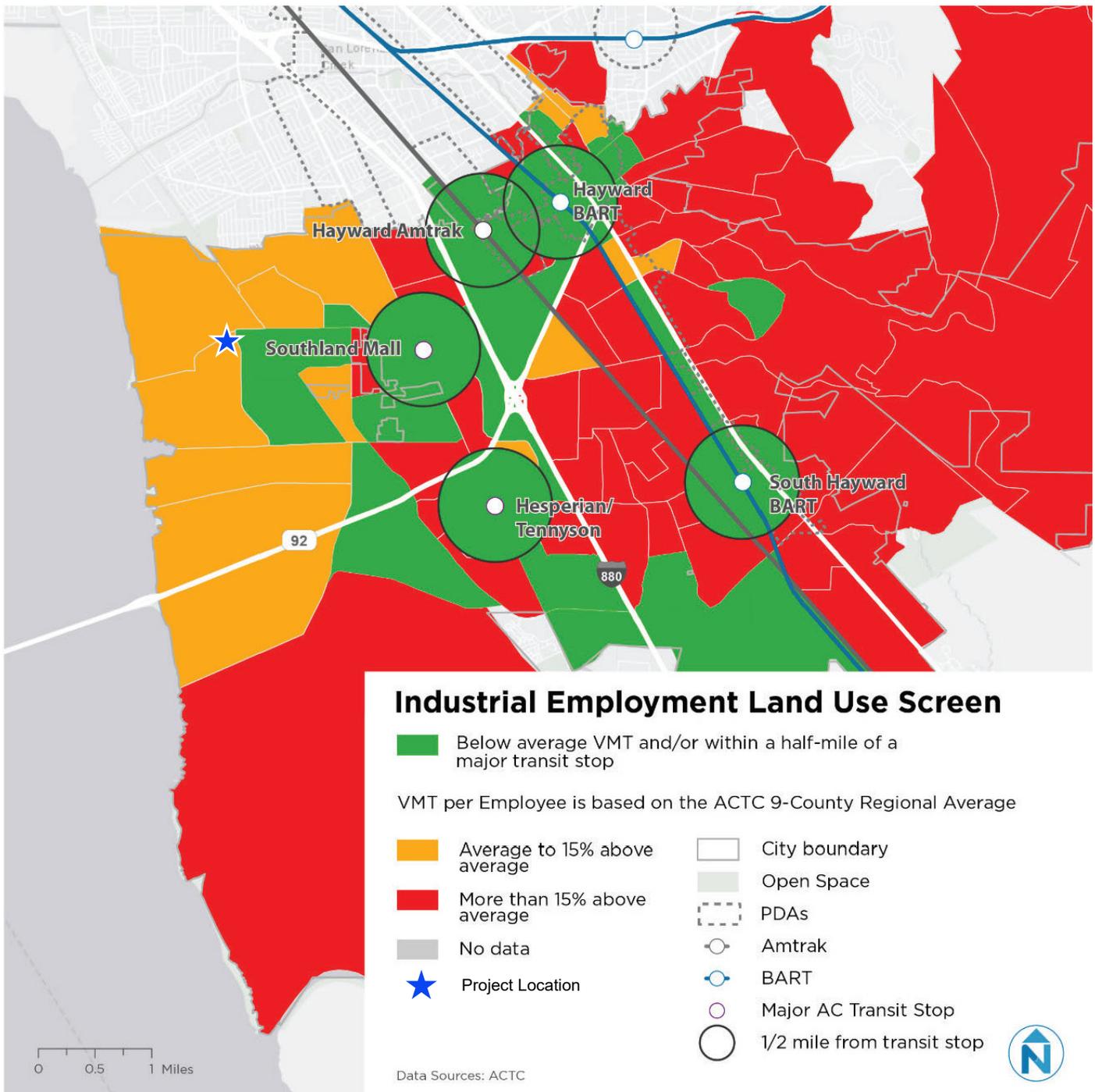
along with showers and lockers. Additionally, the 2020 Hayward Bicycle and Pedestrian Plan Update identifies the section along West Winton Avenue between Cabot Boulevard and the Bay Trail as a proposed Class III Bicycle Boulevard. Amazon should work with the City to implement the Class III Bicycle Boulevard as part of the project and to be consistent with the City's Bicycle and Pedestrian Master Plan. Upgrading this section of roadway to include a Class III Bicycle Boulevard would enhance the bicycle-user experience and therefore encourage non-auto travel and reduce VMT.

In lieu of the ACTC VMT Reduction Calculator being not yet available, other VMT reduction resources were used to calculate the VMT reduction of these TDM measures. Therefore, the URBEMIS software tool was used to calculate the VMT reductions of these TDM measures. It is estimated that the average VMT per employee would be reduced by approximately 8 percent if all of the recommended measures previously mention are implemented. These mitigations should be enough to reduce the VMT impact to a less-than-significant level. Amazon would provide to the City an annual TDM Monitoring Report to ensure compliance and to verify that the implemented measures are effectively reducing VMT to a level below the City's significance thresholds.

Delivery Vans

Amazon vans are currently delivering packages throughout the City of Hayward. While the project may generate some "new" deliveries, as discussed below, the bulk of the deliveries are already operating on Hayward streets. Deliveries within Hayward currently come from the Amazon facility in San Leandro, approximately 10 miles from Hayward. The Project would result in the average length of van trips being reduced by approximately 20 miles (10 miles each way). Thus, by having a local delivery station in Hayward, the trip length for each delivery van trip would be reduced. This will result in a reduction in regional VMT for the delivery vans compared to existing conditions, and the impact of the delivery van trips will be less than significant. The reduction in regional VMT is consistent with the with State Board 743 (SB 743) goals/objectives and is consistent with OPR guidelines.

There is a trend toward increased on-line shopping which could increase the number of deliveries in Hayward. Also, having a local delivery station could reduce the shipping time for customer orders, which could encourage more on-line shopping. Although difficult to quantify, it is believed that on-line shopping involves less overall travel than customers driving to various stores to complete their shopping. Vans would deliver on-line packages to customers from a particular area within Hayward, which would reduce the need for customers to drive to physical stores around Hayward and other cities in the region. This would result in a reduction of vehicles on the road. With more customers shopping on-line, there could be an increase in the number of delivery vans on the road due to an expansion of the proposed Hayward facility in the future. However, selling more products on-line would reduce the need for customers to individually drive to stores to buy products. Thus, having delivery vans on the road would help reduce the number of vehicles on the road and could lead to a reduction in VMT. Therefore, online shopping could result in a reduction in VMT in the area.



Source: VMT Thresholds of Significance and Screening Criteria, June 16th 2020, City of Hayward

Figure 5
VMT Employment - Industrial Land Use Screen

Transit, Pedestrian and Bicycle Analysis

A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to pedestrian facilities or otherwise decrease the performance or safety of pedestrian facilities. The proposed project would not result in any significant impacts to existing or planned pedestrian facilities in the immediate vicinity of the project because of the absence of such conflicts; therefore, the impact to pedestrian facilities is less-than-significant.

In terms of bicycle access to the project site, West Winton Avenue and Cabot Boulevard are classified as Class III Bike routes per the City of Hayward Bicycle Master Plan. Overall, the existing bicycle facilities provide adequate connectivity between the proposed project site and the adjacent neighborhoods. An impact to bicyclists occurs if the proposed project disrupts existing bicycle facilities; or conflicts with or creates inconsistencies with adopted bicycle system plans, guidelines, and policies. A significant impact occurs if the proposed project conflicts with applicable or adopted policies, plans or programs related to bicycle facilities or otherwise decrease the performance or safety of bicycle facilities. The proposed project would not conflict with existing and planned bicycle facilities; therefore, the impact to bicycle facilities is less-than-significant.

The entrance to the Bay Trail, a bike and pedestrian path, is located west of the project site along West Winton Avenue. The Bay Trail runs along the east boundary of the San Francisco Bay. There are sidewalks leading up to the west end of the project site. However, there are no existing sidewalks leading to the Bay Trail. Currently, there is low traffic volume in this area of West Winton Avenue. However, more development could increase the amount of traffic in this area. The project should contribute to any future construction of sidewalks that provide pedestrian access to the Bay Trail.

The proposed project would generate very few trips via transit services, which can be accommodated by the existing transit capacity, and, hence, the project is anticipated to have a less-than-significant impact on transit facilities.

Conclusions

The project would result in a potentially significant impact to VMT relative to employee trips. This potential impact could be mitigated with a TDM program that includes:

- Carpool incentives (matching program);
- Financial incentives to encourage transit usage by employees, including providing free transit passes to employees;
- On-site Bicycle Facilities (secure bicycle storage, lockers and showers); and
- A TDM Monitoring Report submitted to the City each year to ensure compliance.

The effect of delivery vans would be reduction in regional VMT due to consolidation of regional Amazon facilities and shorter trip lengths due to online, as opposed to traditional in-person shopping.

The project would not have a significant impact on transit, bicycle, or pedestrian operations. Nevertheless, the project should contribute to a pedestrian connection to the Bay Trail, which is located just west of the site, and should re-stripe West Winton Avenue to include a Class III Bicycle Boulevard between Cabot Boulevard and the Bay Trail entrance, per the City's Bicycle and Pedestrian Master Plan and to encourage employees to bike to/from work.