CHAPTER 14.0
TRANSPORTATION AND TRAFFIC

14.1 INTRODUCTION
This chapter describes the transportation and traffic resources that might be affected by the proposed Plan. The purpose of the chapter is to identify and evaluate the potential for the proposed Plan to adversely affect transportation and traffic resources.

The following sections provide information on the regulatory context, including state and local laws and policies as well as providing information on the regional setting and existing conditions within the proposed Plan area. A qualitative analysis of potential effects to transportation and traffic resources associated with the proposed Plan is provided in Section 14.3. Mitigation measures to reduce, avoid or eliminate effects to a less than significant level are also provided, where appropriate.

Guidelines and key sources of data used in the preparation of this chapter include the following:

- City of Pittsburg General Plan (City of Pittsburg, 2001)
- Contra Costa Transportation Authority (CCTA) Technical Procedures (2013 Update)
- California Department of Transportation (Caltrans) Guide for the Preparation of Traffic Impact Studies
- Transportation Research Board’s Highway Capacity Manual 2000

Public and agency comments received during the public scoping period in response to the Notice of Preparation are summarized in Appendix C, “NOP Response Letters.”

14.2 ENVIRONMENTAL SETTING
The following sections provide information on the regulatory context, including the applicable federal, state, and local laws and policies, and describe the regional setting and existing transportation infrastructure within the proposed Plan area.

14.2.1 Regulatory Context
The federal, California, regional, and local regulatory setting for the proposed Plan, specific to transportation and traffic, is described below.

14.2.1.1 Federal Regulations

Under the HMTA, the DOT has broad discretion to promulgate regulations regarding the packaging, labeling, and transportation of hazardous substances. (49 CFR § 171-180) DOT has issued those regulations in an extensive Table of Hazardous Materials published in the CFR. (CFR § 172.101) The table identifies hazardous substances subject to regulation by chemical name, states their classification, and outlines their basic transportation requirements.
California statutes and regulations refer to the federal Table of Hazardous Materials in defining hazardous materials under California law. The table is expressly referenced in the California Highway Patrol regulations. (CCR title 13, § 1160.5)

14.2.1.2 State Regulations

**California Department of Transportation (Caltrans).** Caltrans is responsible for planning, designing, constructing, operating, and maintaining the state highways and freeways (e.g., State Route 4 [SR 4]) in the area of the proposed Plan. Caltrans also coordinates several statewide transportation programs that directly affect the circulation system in the region. These include the State Transportation Improvement Program (STIP), the Congestion Mitigation and Air Quality (CMAQ) Improvement Program, and the Traffic Congestion Relief Program (TCRP).

Based on the Caltrans Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002), “Caltrans endeavors to maintain a target Level of Service (LOS) at the transition between LOS C and LOS D on state highway facilities”; however, it acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the target LOS. For SR 4, the level of service standards are established by the Contra Costa Transportation Authority (CCTA) acting as the designated Congestion Management Agency (CMA; described below). As the acting CMA, CCTA establishes the traffic LOS standards for all state highway facilities in Contra Costa County, which supersedes the general Caltrans operational standard.

Caltrans is also the administrating agency for regulations related to traffic safety, including the licensing of drivers, weight and load limitations, transportation of hazardous and combustible materials, and the safe operation of vehicles. Additionally, Dow or its hauling contractor are required to obtain a Caltrans Transportation Permit for any load that exceeds Caltrans weight, length, or width standards on state highways, such as SR 4. This permit would specify a predetermined route from origin to destination.

**California Highway Patrol (CHP).** California Vehicle Code (CVC), § 32000-34064, provide CHP with authority to adopt regulations for the transportation of hazardous materials in California. CHP can issue licenses and specify the route for hazardous material delivery. Dow or its hauling contractor are required to be qualified, fully licensed, registered, and insured to transport hazardous wastes generated in compliance with the CVC.

**California Public Utilities Commission (CPUC).** CPUC oversees rail safety in California. Specifically, the mission of the Railroad Safety and Operations Division is to ensure that California communities and railroad employees are protected from unsafe practices on freight and passenger railroads by enforcing rail safety rules, regulations, and inspection efforts and to carry out proactive assessments of potential risks before they create dangerous conditions. The Division investigates rail accidents and safety-related complaints, recommends safety improvements to the CPUC, railroads, and the federal government. The CPUC employs federally certified inspectors to ensure that railroads comply with both federal and California railroad regulations, including overseeing operating practices, track conditions, signal and train control, motive power and equipment, and movement of hazardous materials.

14.2.1.3 Regional Regulations

Several regional agencies oversee and coordinate funding for transportation improvement programs affecting Pittsburg, including the CCTA, TRANSPLAN Regional Transportation Planning Committee, and Metropolitan Transportation Commission (MTC).

**Contra Costa Transportation Authority.** In 1988, Contra Costa County voters passed Measure C, increasing the sales tax for 20 years to finance construction of a specified set of public transit and highway improvement projects. This ballot measure created the CCTA, which oversees the improvements contained in the Measure C Growth Management Program, including the widening of SR 4. In 2004, County voters approved a 25 year extension of Measure C when they approved the Contra Costa County Transportation Sales Tax Expenditure Plan (Measure J).
CCTA is also the CMA that sets state and federal funding priorities for improvements affecting the CMP Roadway System. The purpose of the CMP is to address the impact of local growth on the regional transportation system. Local jurisdictions are required to monitor the LOS standards at the designated locations within this network. CCTA has established a minimum standard of LOS E for all parts of the CMP network except those that were already operating at a worse LOS in 1991.

CCTA requires that applicable local transportation standards of significance be followed for unsignalized intersections, the CMP network, and state routes. In addition to the local standards, CCTA has its own standards of significance. In general, a project-related impact is considered significant if a proposed Project would be likely to result in any of the following:

- deterioration of an intersection from LOS D\(^1\) or better to LOS E or F under project conditions, or cause a substantial increase in the volume-to-capacity (V/C) ratio at an intersection operating at LOS E or F
- deterioration of a freeway segment to LOS F, unless LOS F was measured when the CMP was established in 1991
- deterioration of an intersection or freeway segment to an LOS below the threshold of its jurisdiction

In addition, CCTA considers an impact to a Route of Regional Significance to be significant if the project-related traffic would:

- worsen intersection operating conditions by more than one degree of LOS or
- worsen intersection operating conditions to LOS E or F

SR 4 and the Pittsburg-Antioch Highway are CMP roadways (or Routes of Regional Significance).

In addition to the CMP, CCTA develops Action Plans to establish overall goals, set performance measures, (called Multimodal Transportation Service Objectives, or MTSOs) for designated Regional Routes of Significance and outlines projects, programs, measures, and actions that will support achievement of the MTSOs. Specifically, the East County Action Plan includes the following MTSOs for SR 4 (Fehr and Peers, 2014):

- The Delay Index should not exceed 2.5 during the A.M. or P.M. peak period
- HOV lane utilization should exceed 600 vehicles per lane in the peak direction during the peak hour

The Delay Index is calculated by measuring the time it takes to travel a segment of road during peak period congested conditions, and comparing it to the time it takes to travel the same segment during uncongested, free flow conditions.

The MTSO for the Pittsburg-Antioch Highway is to maintain LOS D or better at all signalized intersections (consistent with the impact thresholds identified for CCTA intersections, described above).

**TRANSPLAN Regional Transportation Planning Committee.** The TRANSPLAN Committee coordinates the regional transportation interests of the communities in eastern Contra Costa County (TRANSPLAN, 2015). The five member governments of TRANSPLAN include the cities of Antioch, Brentwood, Oakley, and Pittsburg and Contra Costa County. The region includes the unincorporated communities of Bay Point, Bethel Island, Byron, Discovery Bay, and Knightsen, which are governed by Contra Costa County.

\(^1\) See Chapter 14.2.1, Table 14-1 and page 14-10 of this EIR for definitions of the various LOS conditions.
Metropolitan Transportation Commission (MTC). MTC is the transportation planning, coordinating, and financing agency for the nine county San Francisco Bay Area (MTC, 2015). Over the years, the agency’s scope has grown. It is now three agencies in one, functioning as MTC, the Bay Area Toll Authority (BATA), and the Service Authority for Freeways and Expressways (SAFE). MTC functions as both the state designated regional transportation planning agency and, for federal purposes, as the region’s metropolitan planning organization (MPO). MTC is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, freight, bicycle, and pedestrian facilities. MTC also screens requests from local agencies for state and federal grants for transportation projects to determine their compatibility with the plan.

14.2.1.4 Local Regulations

City of Pittsburg General Plan. The City of Pittsburg has jurisdiction over all City streets, including Loveridge Road, and City operated traffic signals. The Transportation Element of the City of Pittsburg General Plan contains goals and policies for traffic services and roadway improvements (City of Pittsburg, 2001). The relevant goals and policies are listed below:

Goal 7-G-5: Provide adequate capacity on arterial roadways to meet LOS standards and to avoid traffic diversion to local roadways or the freeway. As congestion increases on SR 4, monitor and evaluate the need to implement neighborhood traffic management controls on local streets to eliminate or minimize the impact of diverted traffic.

7-P-1: Require mitigation for development proposals that are not part of the Traffic Mitigation Fee program and that contribute more than 1 percent of the volume to an existing roadway or intersections with inadequate capacity to meet cumulative demand.

7-P-2: Use the adopted Regional and Local Transportation Impact Mitigation Fee ordinances to ensure that all new development pays an equitable pro-rata share of the cost of transportation improvements. Review the Traffic Impact Mitigation Fee schedule annually and update at least every five years.

Policy 7-P-20: Encourage motorists to use SR 4 for the peak hour commute, rather than using arterial streets in Concord and other East County cities.

Policy 7-P-22: Avoid adding traffic to roadways carrying volumes above the standards, and consider traffic control measures where perceived nuisance is severe.

Policy 7-P-24: Continue to designate appropriate truck routes and discourage unnecessary through traffic in residential areas.

Policy 7-P-55: Encourage major employers to adopt Transportation Demand Management programs that would reduce peak period trip generation by at least 15 percent.

Policy 3-P-5: As part of development review, require preparation of a traffic impact study for all development projects expected to generate more than 100 net new peak hour vehicle trips. Ensure that traffic impact studies are prepared by professional transportation consultants selected and hired by the City, but require that project proponents pay all fees associated with development of such studies.

City of Pittsburg Level of Service Standards. The City of Pittsburg uses the following LOS standards to identify traffic impacts (City of Pittsburg, 2009):

- LOS D or better (≤85 percent capacity) on intersections along major arterials: there would be a significant impact if a project performed worse than LOS D or exceeded 85 percent capacity on intersections along major arterials
- LOS D or better at signalized intersections along non-freeway SR 4: there would be a significant impact if a project performed worse than LOS D at signalized intersections along non-freeway SR 4
- LOS E or better at unsignalized intersections along non-freeway SR 4: there would be a significant impact if a project performed worse than LOS E at signalized intersections along non-freeway SR 4
• Pre-existing unacceptable base case unsignalized intersection operation has an increase in V/C of 0.02 or greater or an increase in delay of 5 seconds or greater; there would be a significant impact if the V/C ratio increased by 0.02 or more at an unsignalized intersection, or delay at an unsignalized intersection increased by 5 seconds or greater

• Achieve service level standards for Basic Route intersections that conform to CCTA’s Growth Management requirements for Routes of Regional Significance: there would be a significant impact if the project would not achieve service level standards for Basic Route intersections that conform to CCTA’s Growth Management requirements for Routes of Regional Significance

14.2.2 Regional Setting and Existing Conditions

This section describes the existing regional and local roadway network and rail facilities.

14.2.2.1 Regional Road Network

The regional road network is presented in Figure 14-1. The primary regional transportation corridors in the vicinity of the proposed Plan include SR 4, which runs east-west through the City of Pittsburg, SR 160 in East Antioch, and SR 242 and Interstate 680 (I-680) in Concord.

SR 4 is the closest major highway to the proposed Plan area and supports major recreational and commuter traffic between the Bay Area, Central Valley, and Sierra foothills. SR 4 carries an average of 132,000 vehicles/day near Railroad Avenue, and 115,000 vehicles/day near Loveridge Road (Caltrans, 2015).

Construction of the Highway 4 Corridor Improvements Project (Highway 4 project) is currently under way and includes improvements to SR 4, its interchanges, and affected local roadways from Pittsburg to Antioch (Contra Costa Transportation Authority 2015). The SR 4 corridor is currently being widened from four to eight lanes, from approximately 0.8 miles west of Loveridge Road, in Pittsburg, to approximately 0.7 miles east of Hillcrest Avenue, in Antioch. One lane in each direction will be dedicated to carpool and transit vehicles. In addition, the SR 4 interchanges at Loveridge Road (completed), Somersville Road (completed), Contra Loma Boulevard-L Street (completed), Lone Tree Way-A Street (completed), and Hillcrest Avenue (completed) have been reconstructed to accommodate the highway widening. The Highway 4 project will also add 10 miles of East Contra Costa Bay Area Rapid Transit (BART) extension or eBART track from the Pittsburg/Bay Point Station to a new station at Hillcrest Avenue in Antioch.

The Loveridge Road segment (from just west of Loveridge Road to just west of Somersville Road/Auto Center Drive) was completed in the summer of 2014. The Somersville Road/Auto Center Drive segment was completed in the winter of 2013. The Contra Loma Boulevard-L Street segment was completed in January of 2016. The Lone Tree Way/A Street segment was completed in November 2016. The Hillcrest Avenue segment, the fifth and final construction segment, was completed in September 2016.

According to CCTA, during the morning peak hour, SR 4 has a Delay Index of 1.1 for the eastbound direction and 1.4 for the westbound direction. During the afternoon peak hour, SR 4 has a Delay Index of 1.4 for the eastbound direction and 1.3 for the westbound direction. CCTA forecasts that the morning peak-hour Delay Index in 2040 will be 1.3 for the eastbound direction and 1.9 for the westbound direction. The afternoon peak-hour Delay Index is forecast to be 1.7 for the eastbound direction and 1.3 for the westbound direction (CCTA, 2015).

SR 160 is a north-south highway linking SR 4 in Antioch with Sacramento via the Antioch Bridge. Near SR 4, SR 160 is four lanes and carries an average of 11,100 vehicles per day (Caltrans, 2015).

SR 242 is a three-mile connector route that links I-680 north of Pleasant Hill to SR 4 in Concord. In 2000, SR 242 was widened to six lanes along its entire route. Near SR 4, SR 242 carries an average of 106,000 vehicles per day (Caltrans, 2015).

I-680 is a north-south interstate highway connecting the eastern cities of the San Francisco Bay Area from San Jose to Interstate 80 (I-80) at Cordelia. Near SR 4, I-680 is eight lanes and carries an average of 133,000 vehicles per day (Caltrans, 2015).
14.2.2.2 Local Road Network

Within Pittsburg, a system of surface streets collects and distributes traffic to and from the highway and regional routes, and between the commercial, industrial, and residential areas of the City (City of Pittsburg, 2001). Local access to the proposed Plan is provided via SR 4 or the Pittsburg-Antioch Highway to Loveridge Road. Access to the proposed Phases 1 and 2 sites is provided by four existing driveways on Loveridge Road. The proposed Phases 1 and 2 sites are bordered on the south by BNSF Railway tracks and on the west by Loveridge Road.

Loveridge Road is a major arterial within the vicinity of the proposed Plan area, and carries an estimated 22,281 vehicles per day. The most recent traffic count on Loveridge Road was conducted in 2006. The existing (2015) daily traffic on Loveridge Road was estimated by applying a growth rate of 0.92 percent per year to the 2006 traffic volumes on Loveridge Road. The growth rate was calculated based on the increase in traffic on Loveridge Road between 1990 and 2006 (City of Pittsburg, 2006). These data are the most current information publicly available. From the proposed Plan area, Loveridge Road extends southwest, across SR 4, to Buchanan Road. North of Pittsburg-Antioch Highway, Loveridge Road has two lanes in each direction. The Loveridge Road Interchange portion of the Highway 4 project, from just west of Loveridge Road to immediately west of Somersville Road/Auto Center Drive, was completed in summer 2014. Reconstruction of the Loveridge Road interchange is also complete.

The Pittsburg-Antioch Highway is a major route that serves as an alternative route to SR 4 for regional commuters. The highway is an east-west major arterial that roughly parallels the north side of SR 4 and has one to two lanes in each direction.

14.2.2.3 Existing Intersection Level of Service

LOS is a qualitative description of traffic operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or forced flow conditions with extreme delays. A typical method for determining LOS at signalized intersections is to evaluate the average intersection delay, which is calculated by summing the average delay (in seconds) for vehicles in each lane for all intersection approaches. General descriptions of LOS and the corresponding control delay is provided in Table 14-1.

Table 14-1: Level of Service Criteria for Signalized Intersection Operations

<table>
<thead>
<tr>
<th>LOS</th>
<th>Control Delay (Seconds/Vehicle)</th>
<th>Traffic Flow Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤10.0</td>
<td>Very low delay occurring with exceptionally favorable progression or short cycle lengths. Most vehicles arrive during the green indication and travel through the intersection without stopping.</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10.0 and ≤20.0</td>
<td>Operations with low delay occurring with highly favorable progression or short cycle lengths.</td>
</tr>
<tr>
<td>C</td>
<td>&gt;20.0 and ≤35.0</td>
<td>Operations with average delays with favorable progression or moderate cycle lengths. Individual cycle failures begin to appear.</td>
</tr>
<tr>
<td>D</td>
<td>&gt;35.0 and ≤55.0</td>
<td>Operations with longer delays due to a combination of ineffective progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.</td>
</tr>
<tr>
<td>E</td>
<td>&gt;55.0 and ≤80.0</td>
<td>Operations with high delay values indicating unfavorable progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent.</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80.0</td>
<td>Operation with unacceptable delays to most drivers occurring due to very high V/C ratios, very poor progression, and long cycle lengths. Most cycles fail to clear the queue.</td>
</tr>
</tbody>
</table>

Source: (Transportation Research Board, 2010)
The morning and afternoon peak hour intersection LOS information was obtained from the certified Tuscany Meadows Draft Environmental Impact Report (DEIR) (RANEY Planning and Management, Inc., 2014) for the SR 4 westbound ramps (Loveridge Road) at California Avenue, the intersection of Loveridge Road and California Avenue, and the SR 4 eastbound ramps at Loveridge Road. The intersection LOS information contained in the Tuscany Meadows DEIR is based on peak-hour turning movement counts conducted between May 2012 and March 2014. All of the intersections are signalized. The existing LOS at these intersections is presented in Table 14.2. As shown below, all of the intersections operate at LOS C or better during both peak hours.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Morning Peak Hour</th>
<th>Afternoon Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delay</td>
<td>LOS</td>
</tr>
<tr>
<td>SR 4 Westbound Ramps (Loveridge Road) at California Avenue</td>
<td>18.4</td>
<td>B</td>
</tr>
<tr>
<td>Loveridge Road at California Avenue</td>
<td>34.4</td>
<td>C</td>
</tr>
<tr>
<td>SR 4 Eastbound Ramps at Loveridge Road</td>
<td>22.3</td>
<td>C</td>
</tr>
</tbody>
</table>

Source: (RANEY Planning and Management, Inc., 2014)

14.2.4 Rail Facilities

The BNSF Railway line is adjacent to the southern perimeter of the Dow Facility and extends southwest to Richmond and east to Stockton. BNSF delivers railcars to the Dow fence line approximately three times daily on weekdays and once per day on weekends.

14.3 IMPACT ANALYSIS

This section addresses potential impacts to the traffic and transportation environment surrounding the proposed Plan site and defines how the impacts were identified during the analysis.

14.3.1 Methodology

Traffic data and other transportation system information were obtained from maps, literature searches, and aerial photographs. Proposed Plan activities during construction and operation were evaluated within the context of surrounding transportation facilities to determine whether the proposed Plan may result in changes that will directly or indirectly affect those facilities.

Where available, average daily trip (ADT) volumes were obtained from Caltrans and the City of Pittsburg and the potential daily increase in traffic on these roadways was evaluated with the proposed Plan conditions. Intersection LOS information was also reviewed for the study intersections and the potential proposed Plan impacts to these intersections were addressed. Finally, railcar information was obtained for the existing BNSF line and evaluated with the proposed Plan’s increase in rail trips.

14.3.2 Standards of Significance

Criteria for determining the significance of impacts related to transportation and traffic are based on the environmental checklist form in Appendix G of the State CEQA Guidelines § 15000 et seq. CCTA and the City of Pittsburg LOS standards (described in Chapter 14.2.1.) were also reviewed. Cumulative impacts on traffic and transportation resources that could result from implementation of the proposed Plan were also evaluated and are discussed in Chapter 16.
Effects of proposed Plan construction and operation activities on transportation and circulation would be significant if the proposed Plan would:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
- Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities

Areas of No Project Impact

According to the analysis contained in the initial study (Appendix B, pages 4-30 through 4-31), the following impacts either are not applicable to the proposed Plan or are not reasonably foreseeable:

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

There are no airports or airstrips, public or private, in the vicinity of the proposed Plan site. The closest airport, Buchanan Field Airport in Concord, California, is a county owned, public use airport located approximately 14 miles from the proposed Plan. The proposed Plan would have no impact on air traffic patterns, from either an increase in traffic levels or a change in location that results in substantial safety risks.

The proposed Plan would not involve any physical changes to the access routes at or near the Dow Facility during either construction or proposed Plan operations. Access to the site would be provided from an existing driveway. The proposed Plan site is located in an established industrial area and no change in land use is proposed. The proposed Plan would not be located next to incompatible land uses. The proposed Plan would not increase hazards on area roadways due to a design feature or incompatible use and there would be no impact.

There would be no substantial increase in traffic levels that would alter emergency access to the site.

As an industrial development project, the proposed Plan would not be expected to conflict with adopted policies, plans, or programs supporting alternative transportation, as there would be no changes related to alternative transportation. The proposed Plan activities would occur entirely onsite and would not affect transit, bicycle facilities, or other forms of alternative transportation. No realignment of streets is proposed and no permanent street closures or changes in circulation patterns would occur. The proposed Plan would have no impact to adopted policies, plans, or programs supporting alternative transportation.
As stated in the initial study (Appendix B, page 4-30), it was determined that further analysis would be required to determine the level of significance of the following potential transportation and traffic impacts from the proposed Plan. Without a detailed analysis, it was assumed that these impacts could be potentially significant. However, based on the analysis provided below in Section 14.3.4, “Potential Significant Impacts and Mitigation Measures,” it was later determined that the following potential transportation and traffic impacts were determined to be less than significant:

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Conflict with an applicable congestion management program, including, but not limited to, LOS standards and travel demand measures, or other standards established by the County congestion management agency for designated roads or highways.

### 14.3.3 Proposed Project Conditions

**Construction Trip Generation.** The proposed Plan includes the modernization of three existing plants at the 540 Block, 640 Block, and 660 Block, installation of new railcar parking tracks, and construction of a new plant at the 760 Block. The new plant and existing plant modernizations may be constructed in two phases over 4 or more years, depending upon the interpretation of market conditions made by Dow. The amount of traffic that would be generated by the proposed Plan during construction was estimated based on the anticipated construction schedule, activities, and workforce, including the number of employees and anticipated daily vehicle activity at the site, as shown in Table 14-3. The proposed Plan trip generation was estimated for the peak construction period.

#### Table 14-3: Construction Project Trip Generation

<table>
<thead>
<tr>
<th>Trip Type</th>
<th>ADT&lt;sup&gt;c&lt;/sup&gt;</th>
<th>Morning Peak Hour</th>
<th>Evening Peak Hour</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
<td>Total</td>
</tr>
<tr>
<td>Delivery Trucks</td>
<td>30</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Delivery Trucks PCE (1.5)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>45</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Workers&lt;sup&gt;b&lt;/sup&gt;</td>
<td>330</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Construction Traffic in PCE</td>
<td>375</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>a</sup> PCE = passenger car equivalent  
<sup>b</sup> Assumes construction workers arrive before 7 a.m. and depart by 3:30 p.m.  
<sup>c</sup> ADT = average daily trips

The vehicular trips associated with the proposed Plan were separated into construction worker trips (generally automobile trips) and delivery trips (truck trips). The projection of truck trips provided in Table 14-3 is a conservative estimate because it assumes all of the material would be delivered by truck when, in fact, some of those materials may be shipped by rail.

The number of construction workers would fluctuate throughout the construction period, with an average of 106 workers onsite each day. The peak construction effort would occur for about four months in year 1, when approximately 165 workers are projected to be onsite each day. As a means of providing a conservative estimate, it is assumed that none of the construction workers would carpool. Therefore, the construction workforce would generate 330 ADT (see Table 14-3). Dow anticipates that the construction workforce would report to the job site for 8 hour shifts, 5 days a week. The precise schedule may be modified in start time or duration to optimize the construction schedule. Based on current information, the most reasonable
The assumption is that construction work would begin before 7 a.m. and finish by 3:30 p.m. This schedule would minimize the number of construction trips that occur during peak commute periods, which are typically between 7 a.m. and 9 a.m. and 4 p.m. and 6 p.m. All of the construction workforce is assumed to arrive before the morning peak hour for general traffic, and as a conservative estimate, up to 25 percent of the workforce is assumed to depart the site during the afternoon peak hour.

The greatest number of truck deliveries expected during peak construction of the proposed Plan is approximately 15 deliveries per day, or 30 ADT. It is assumed that the truck trips would be spread evenly throughout the day, beginning at 7 a.m. and ending at 3 p.m. The resulting estimate was two trips during the morning peak hour.

**Construction Traffic Distribution.** Based on the regional street network and anticipated employee origins and destinations, it is estimated that the construction traffic would be distributed as follows:

- Five percent of the trips would come from the local Pittsburg area
- 60 percent of the trips would come from areas to the west (Bay Point, Martinez, Concord, Pleasant Hill, and Walnut Creek)
- 35 percent of the trips would come from areas to the east (Antioch, Brentwood, and Tracy)

**Operation Trip Generation.** Operation of Phase 2 of the proposed Plan would result in the hiring of 12 new permanent employees, all of whom would be drawn from the local or regional labor pool, generating a total of 12 vehicular round trips per day. Operation of Phases 1 and 2 of the proposed Plan would also result in an increase in truck trips related to the shipment of additional raw materials and products. Truck trips during operations are estimated to increase by approximately 1,589 trips annually. The added trips would be spread evenly throughout the year, resulting in approximately six additional round trips per workday, assuming approximately 260 delivery days per year (see **Table 14-4**). The truck trips would occur outside of peak hours.

**Table 14-4: Existing and Proposed Material Transportation via Trucks for the Proposed Project**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Pre-Project</th>
<th>Post-Project + 20% FOS</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Truck Trips/day</td>
<td>Truck Trips/yr</td>
<td>Truck Trips/yr</td>
</tr>
<tr>
<td>Project Total</td>
<td>23</td>
<td>6,029</td>
<td>29</td>
</tr>
</tbody>
</table>

* FOS = factor of safety

The proposed Plan would continue to receive shipments via BNSF railcars. Railcar deliveries to the Dow Facility on the BNSF line would increase from 2,747 railcars per year currently (2013 baseline) to 5,000 railcars per year during peak operations as a result of the proposed Plan (see **Table 14-5**). This is a net increase of approximately 2,253 railcars per year, or about nine railcars per workday. The additional railcars would be delivered to the facility by existing locomotive trips. Therefore, there would be no net increase in train trips associated with the proposed Plan. It is the responsibility of BNSF to comply with all federal and state rules, regulations, and policies regarding rail safety and transport (CPUC, 2015).

**Table 14-5:Existing and Proposed Material Transportation via Railcars for the Proposed Project**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Pre-Project</th>
<th>Post-Project + 20% FOS</th>
<th>Net Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Railcars/day</td>
<td>Railcars/yr</td>
<td>Railcars/day</td>
</tr>
<tr>
<td>Project Total</td>
<td>10</td>
<td>2,747</td>
<td>19</td>
</tr>
</tbody>
</table>

* FOS = factor of safety
14.3.4 Potential Significant Impacts and Mitigation Measures

14.3.4.1 Construction-related Impacts

| Impact Transportation and Traffic (TRANS)-1: Construction of the proposed Project could potentially conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. |

Project-Level Impact Analysis (Phase 1)

Significance before Mitigation: Less than significant.

Impact Description: See Impact Discussion below.

Program-Level Impact Analysis (Phase 2)

Significance before Mitigation: Less than significant.

Impact Description: Construction of the proposed Plan would result in temporary, short-term increases in local traffic as a result of construction-related workforce traffic (employee travel to and from the site) and material deliveries. All of the construction activities would occur onsite. During peak construction, the proposed Plan is expected to add 405 daily trips, including four trips during the morning peak hour and 41 trips during the afternoon peak hour (Table 14-3). Trips not accounted for in the discussion of study intersections below are local trips.

The majority of the proposed Plan’s construction-related trips (vehicle and truck trips) would occur on Loveridge Road and SR 4. The proposed Plan-added trips represent a 0.3 percent increase in ADT on SR 4 and a 1.7 percent increase in the Loveridge Road ADT. The proposed Plan related traffic would be a minimal increase in traffic compared to existing daily volumes.

For SR 4 specifically, the Delay Index is used by the CCTA to measure performance for the peak hours. The CCTA performance measure states that the Delay Index should not exceed 2.5 during either morning or afternoon peak hours. SR 4 carries approximately 1,700 peak hour trips in the eastbound direction during the morning peak hour and has an estimated Delay Index of 1.1. SR 4 carries approximately 6,700 peak-hour trips in the westbound direction during the morning peak hour and has an estimated Delay Index of 1.4. Based on the anticipated proposed Plan trip distribution pattern, the proposed Plan would add two peak hour truck trips in the eastbound direction and one peak hour truck trip in the westbound direction. The proposed Plan trips during the morning peak hour are negligible and would have no effect on the Delay Index.

During the afternoon peak hour, SR 4 carries approximately 5,100 peak hour trips in the eastbound direction and has a Delay Index of 1.4. In the westbound direction, SR 4 carries approximately 3,500 peak hour trips and has a Delay Index of 1.3. The proposed Plan would add 14 peak hour trips (0.3 percent of existing volumes) in the eastbound direction and 25 trips (0.7 percent of existing volumes) in the westbound direction. The number of proposed Plan-added trips is limited and would not be enough to increase the Delay Index above 2.5 for either direction.

The proposed Plan trips would also travel through the intersections at Loveridge Road/California Avenue, the SR 4 westbound ramps at California Avenue, and the SR 4 eastbound ramps at Loveridge Road. These intersections are currently operating at LOS C or better during both peak hours. The City of Pittsburg considers a project impact to occur if a project were to result in an intersection operating at LOS E or worse. The proposed Plan peak hour trips through the intersections represent a less than 2 percent increase in existing volumes, which is not enough to change the intersection from LOS C to LOS E (or worse).
Furthermore, construction of the entire Highway 4 project is scheduled for completion in summer 2016, prior to the start of construction of the proposed Plan. The Highway 4 project is providing additional capacity on SR 4 and at major intersections (including Loveridge Road) throughout the SR 4 corridor.

Construction of the proposed Plan would occur entirely onsite and would not affect transit, bicycle facilities, or other forms of alternative transportation. No realignment of streets is proposed, and no permanent street closures or changes in circulation patterns would occur. Therefore, as determined in the Initial Study, no impacts to adopted policies, plans, or programs supporting alternative transportation would occur.

All applicable County, state, and federal regulation, ordinances, and restrictions would be identified and complied with prior to and during construction. The proposed Plan would obtain the necessary transportation permits for oversized vehicles and/or the transport of hazardous materials. Therefore, the proposed Plan related traffic during construction would not conflict with any applicable traffic plans, ordinances, or policies that establish measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation. Impacts would be less than significant.

### Mitigation Measures

**Project-Level (Phase 1)**

No mitigation required.

**Program-Level (Phase 2)**

No mitigation required.

### Impact TRANS-2: Construction of the proposed Project could potentially conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

**Project-Level Impact Analysis (Phase 1)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** See Impact Discussion below.

**Program-Level Impact Analysis (Phase 2)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** As noted above, the proposed Plan-related construction represents a 0.3 percent increase in daily traffic on SR 4 and a 1.7 percent increase on Loveridge Road. The proposed Plan related traffic would be a minimal increase in traffic compared to existing daily volumes. The Delay Index on SR 4 would not exceed 2.5 with the proposed Plan added traffic. The intersections near SR 4 are operating at LOS C and the number of proposed Plan trips is minimal enough that the number of trips would not change the intersection from LOS C to LOS E.

The proposed Plan would not exceed the CCTA or City of Pittsburg’s LOS standards or otherwise affect the peak hour LOS of area roads. Furthermore, the Highway 4 segment and interchange improvements will provide additional capacity to accommodate the minimal and temporary increase in proposed Plan-related traffic.

The proposed Plan would not conflict with an applicable congestion management program, or other standards, for designated roads or highways during construction. Impacts would be less than significant.
Mitigation Measures

**Project-Level (Phase 1)**

No mitigation required.

**Program-Level (Phase 2)**

No mitigation required.

### 14.3.4.2 Operational-related Impacts:

**Impact TRANS-3:** Operation of the proposed Project could potentially conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

**Project-Level Impact Analysis (Phase 1)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** See Impact Discussion below.

**Program-Level Impact Analysis (Phase 2)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** Up to 18 daily vehicle trips (12 workforce trips and six truck trips) would be generated during proposed Plan operations. The number of peak hours trips generated as a result of this proposed Plan does not meet or exceed the City Traffic Engineering Division's threshold for requiring a Traffic Impact Study (TIS). Therefore, a TIS will not be required as part of this EIR. There would be no net increase in train trips. The operations-related traffic would also be a minimal increase in traffic compared to existing traffic volumes.

Operation of the proposed Plan would occur entirely onsite and would not affect transit, bicycle facilities, or other forms of alternative transportation. No realignment of streets is proposed, and no permanent street closures or changes in circulation patterns would occur. Therefore, as determined in the Initial Study, no impacts to adopted policies, plans, or programs supporting alternative transportation would occur.

All applicable County, state, and federal regulation, ordinances, and restrictions would be identified and complied with prior to and during operations. The proposed Plan would obtain the necessary transportation permits for oversized vehicles and/or the transport of hazardous materials. Therefore, the proposed Plan related traffic during operations would not conflict with any applicable traffic plans, ordinances, or policies that establish measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation. Impacts would be less than significant.

**Mitigation Measures**

**Project-Level (Phase 1)**

No mitigation required.

**Program-Level (Phase 2)**

No mitigation required.
Impact TRANS-4: Operation of the proposed Project could potentially conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

**Project-Level Impact Analysis (Phase 1)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** See Impact Discussion below.

**Program-Level Impact Analysis (Phase 2)**

**Significance before Mitigation:** Less than significant.

**Impact Description:** As noted above, operation of the proposed Plan would result in a total of 18 vehicular round trips per day. The proposed Plan would also result in an increase in truck trips related to the shipment of additional raw materials and products. Truck trips during operations are estimated to increase by approximately six additional round trips per workday, assuming approximately 260 delivery days per year. In addition, the truck trips would occur outside of peak hours. The number of proposed Plan trips is minimal enough that the number of trips is not anticipated to change the intersection from LOS C to LOS E. During the proposed Plan operations, there would be no net increase in train trips.

The proposed Plan would not exceed the CCTA or City of Pittsburg’s LOS standards or otherwise affect the peak hour LOS of area roads. Furthermore, the Highway 4 segment and interchange improvements shall provide additional capacity to accommodate the minimal increase in proposed Plan-related traffic.

All projects approved by the Planning Commission or City Council of the City of Pittsburg are reviewed by the City’s Traffic Engineering Division to assess the potential for traffic impacts. Dow must fulfill its financial obligations with regard to the Local Transportation Mitigation Fee (PMC Chapter 15.90) (the “LTMF”), in accordance with the provisions of the Memorandum of Understanding originally approved on January 19, 1993, and amended on December 4, 2000, February 4, 2002, and June 4, 2003. If applicable, the developer shall pay the LTMF when obtaining a building permit, or provide the City with bonds for LTMF at the rate in place at the time of building permit issuance. The LTMF is reviewed and adjusted annually to the current Construction Cost Index (CCI) and may be increased at the City Council’s discretion based on revised cost estimates for roadway and transit facilities and other factors that demonstrate an increase is needed to offset traffic impacts caused by new development. This fee shall be paid in accordance with this provision unless the Dow executes a separate agreement to be reviewed and approved by City Council prior to issuance of a building permit.

As applicable, Dow shall also be required to pay the Pittsburg Regional Transportation Development Impact Mitigation Fee (the “PRTDIM”) to the Engineering Division when obtaining a building permit. As applicable, the developer shall be required to fully comply with the Memorandum of Understanding dated June 29, 2010, and as revised by the First Amendment dated April 12, 2013, and Second Amendment dated August 19, 2013, including payment of the fees referenced therein.

The proposed Plan would not conflict with an applicable congestion management program, or other standards, for designated roads or highways during construction or operations. Impacts would be less than significant.

**Mitigation Measures**

**Project-Level (Phase 1)**

No mitigation required.

**Program-Level (Phase 2)**

No mitigation required.