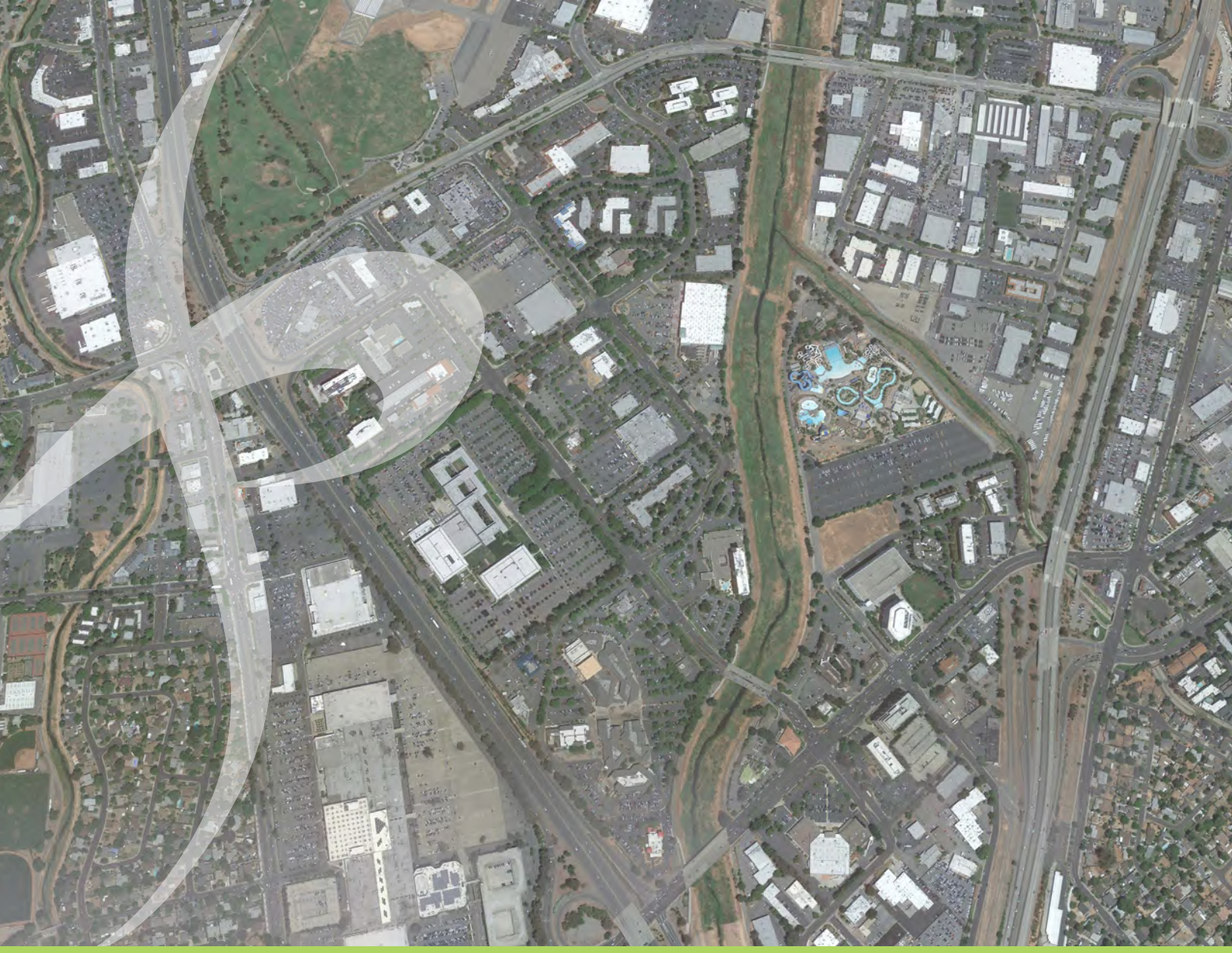


Prepared by

FEHR & PEERS

Prepared for:
City of Concord

Concord

July 2015

Transportation Impact Assessment

Golden State Lumber Concord Facility

Transportation Impact Assessment
Golden State Lumber – Concord Facility

Prepared for:
City of Concord

July 2015

WC14-3122.01

FEHR & PEERS

Table of Contents

Appendices

List of Figures

List of Tables

EXECUTIVE SUMMARY

This document presents the analysis and findings of the Transportation Impact Assessment (TIA) for the proposed Golden State Lumber (Project) in Concord, a city in Contra Costa County.

PROJECT DESCRIPTION AND ANALYSIS PARAMETERS

The proposed Project would construct a lumber yard facility on a vacant 3.5 acre parcel located at the intersection of Diamond Boulevard and Burnett Avenue. A two-story retail building with employee offices and two storage sheds that would house indoor lumber bays are proposed to be constructed on-site. Customers would be able to drive through the larger storage shed to access the larger lumber bays via internal drive aisles and parking spaces. In total, there are 49,064 square feet of dedicated lumber use on-site, which excludes the internal drive aisles and parking spaces in the storage shed. Access to the project site would be provided from a driveway on Diamond Boulevard restricted to delivery vehicles only, and two driveways on Burnett Avenue.

As currently proposed, the Project is consistent with *City of Concord 2030 General Plan* and the City of Concord Zoning Ordinance which permits indoor lumber facilities in the Central Business District. Accordingly, Routes of Regional significance were analyzed to ensure compliance with the Contra Costa County Transportation Authority's Draft 2014 Central County Action Plan Update.

Project Impacts on the study area roadway facilities were determined by measuring the effect Project traffic would have on nine intersections in the vicinity of the site during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. Conditions were evaluated under Existing and Cumulative conditions, both without and with the Project. A site plan review and analysis of bicycle, pedestrian, and transit facilities is also discussed.

FINDINGS

OFF-SITE FINDINGS

Existing Conditions

Results of the existing conditions assessment indicate that the study intersections in the vicinity of the site operate at acceptable service levels during the morning and even peak periods. The addition of Project

traffic is expected to slightly increase delay at some study intersections and result in no change to average delay at other intersections. Therefore, the addition of Project traffic would not change the overall intersection LOS at any of the study intersections and the impact is considered less-than-significant.

Cumulative Conditions

In the Cumulative condition (without project trips), one intersection is projected to operate at a deficient service level, the Contra Costa Boulevard and Concord Avenue/Chilpancingo Parkway intersection in the City of Pleasant Hill. However, the addition of project traffic would not result in a significant impact at this intersection based on the significance criteria. The remaining signalized intersections would continue to operate at LOS D or better in the cumulative condition with the addition of Project traffic. Based on the analysis provided in this report, the cumulative impact is considered less-than-significant. Condition of Approval 2 recommends that the Project applicant be required to pay applicable local transportation impact fees based on the projected level of vehicle trip generation that would fund regional transportation network improvements.

ON-SITE FINDINGS

Based on a detailed site plan review, the following items are recommended for consideration in the development of the final site plan to streamline on-site circulation.

- Consider restricting the westernmost Burnett Avenue driveway to right-in only operation during peak periods. This restriction could be achieved through the use of cones during periods of peak demand and could be implemented on an as-needed basis, similar to what occurs at other Golden State Lumber facilities.
- Create a routing plan for larger vehicles that is communicated to all Golden State Lumber vendors and incorporate signage to communicate preferred paths of travel.
- Remove the four (4) highlighted parking spaces on **Figure 11** to allow vehicles to easily navigate the site.
- Install nine (9) bicycle parking spaces near the main retail showroom entrance with partial or full coverage.
- Develop a parking management plan to establish desired locations for employee parking that is responsive to customer parking patterns.

Although construction impacts are expected to be temporary and less-than-significant, as most of the materials and equipment will be able to be stored on-site, the development of a construction management plan, as outlined in Condition of Approval 1, is recommended.

INTRODUCTION

This chapter discusses the TIA purpose, analysis methods, criteria used to identify significant impacts, and report organization.

TIA PURPOSE

The TIA purpose is to evaluate the transportation impacts of a proposed Golden State Lumber facility in Concord. The City of Concord is adjacent to the cities of Pleasant Hill, Walnut Creek and Clayton, as shown on **Figure 1**. The proposed Project would construct a retail lumber yard, with a retail showroom, offices for employees, and an enclosed lumber yard with no outside, overnight storage at this site. Primary access to the site is proposed from two driveways on Burnett Avenue that would be restricted to right-in and/or right-out only operations due to the existing median along Burnett Avenue. Delivery trucks and other larger vehicles would use a secondary driveway location at the southern portion of the project site along Diamond Boulevard to enter the site, and would exit the site to Burnett Avenue. A conceptual project site plan is shown on **Figure 2.**

This TIA addresses the Project's impacts on the roadway system under existing and cumulative scenarios and discusses potential impacts to the adjacent bicycle, pedestrian, and transit network. A site plan review was also conducted.

TIA ORGANIZATION

This TIA is divided into six chapters as described below:

- **Chapter 1 – Introduction** discusses the purpose and organization of this document.
- **Chapter 2 – Existing Conditions** describes the transportation system in the Project vicinity, including the surrounding roadway network, morning and evening peak period intersection turning movement volumes, existing bicycle, pedestrian, and transit facilities, and intersection operations.
- **Chapter 3 – Project Characteristics** presents relevant Project information, such as the Project components and Project trip generation, distribution, and assignment.

- **Chapter 4 – Existing Plus Project Traffic Conditions** addresses the existing condition plus the Project, and discusses Project vehicular impacts.
- **Chapter 5 – Cumulative Traffic Conditions** addresses the future conditions, both without and with the Project, and discusses Project vehicular impacts.
- **Chapter 6 – Truck Access, Circulation, and Safety** describes potential issues for delivery vehicles and possible effects on local circulation.
- **Chapter 7 – Site Plan Review** describes Project access and circulation for all travel modes, and provides recommendations to improve project site access.

ANALYSIS LOCATIONS AND SCENARIOS

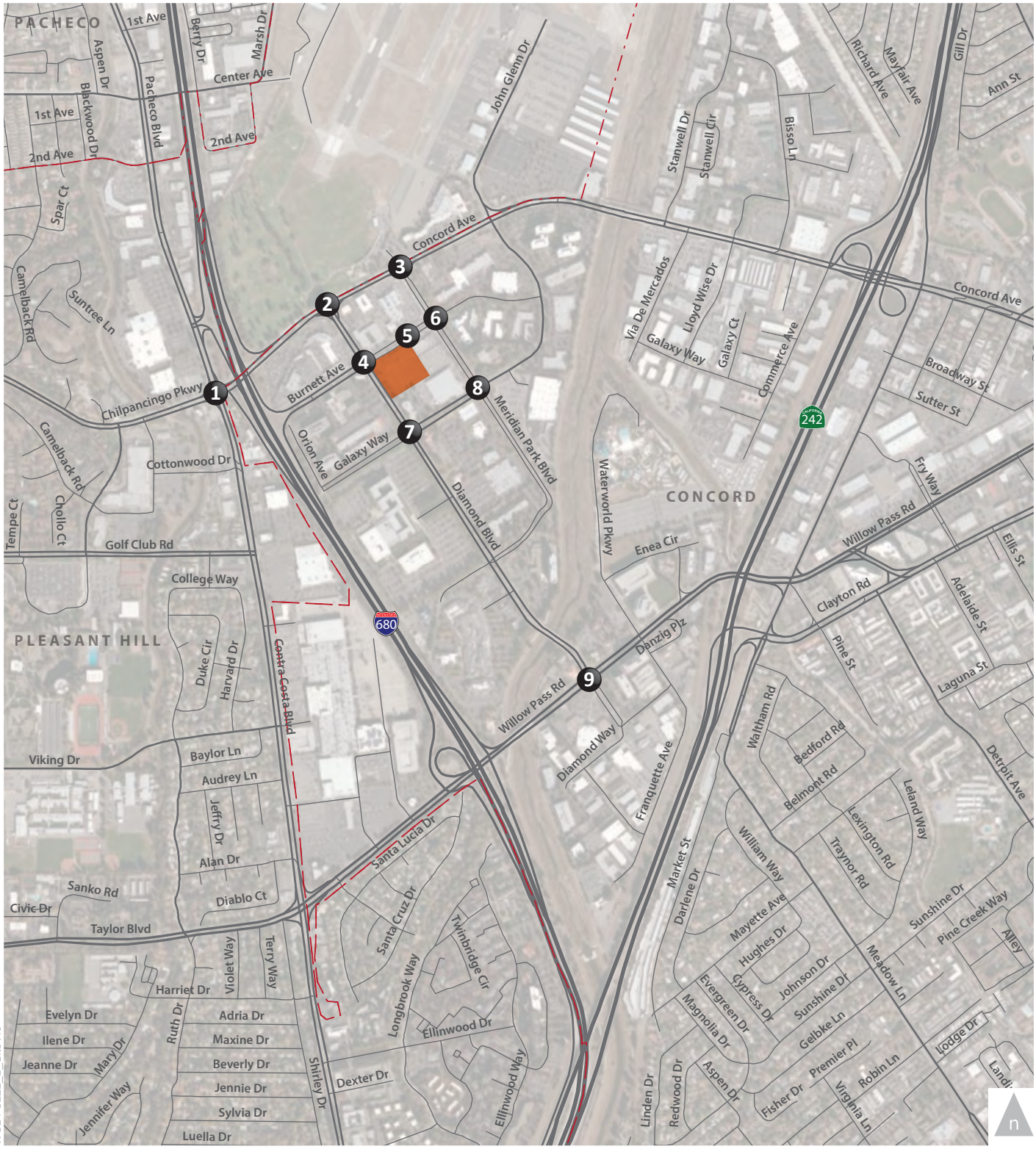
Project impacts on study area roadway facilities were determined by measuring the effect Project traffic would have on intersections in the vicinity of the site during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. The study area includes intersections directly adjacent to the project site that may experience new project-related trips during the morning or evening peak hour. The analysis locations are shown on **Figure 1**, and were selected in consultation with City staff based on a review of the project location and the amount of traffic that could be added to the intersections in the vicinity of the site. Intersection 1, Contra Costa Boulevard/Concord Avenue/Chilpancingo Parkway, is located in the City of Pleasant Hill and maintained by Caltrans, while all other intersections are located in Concord and maintained by Concord.

INTERSECTIONS

1) Contra Costa Boulevard/Concord Avenue/Chilpancingo Parkway (Signalized)
2) Concord Avenue/Diamond Boulevard (Signalized)
3) Concord Avenue/Meridian Park Boulevard (Signalized)
4) Burnett Avenue/Diamond Boulevard (Signalized)
5) Burnett Avenue/Toyota Driveway (Unsignalized)
6) Burnett Avenue/Meridian Park Boulevard (Unsignalized)
7) Galaxy Way/Diamond Boulevard (Signalized)
8) Galaxy Way/Meridian Park Boulevard (Unsignalized)
9) Willow Pass Road/Diamond Boulevard (Signalized)

For this study, the following scenarios were evaluated:

- ***Existing*** – Existing (2014) conditions based on recent traffic counts.
- ***Existing Plus Project*** – Existing (2014) conditions plus Project-related traffic
- ***Cumulative Without Project*** – Future forecast conditions, which considers local and regional traffic growth, reflecting development of pending and approved projects within Concord, reflecting conditions over the next 25 years.
- ***Cumulative With Project*** – Future forecast conditions plus Project-related traffic.



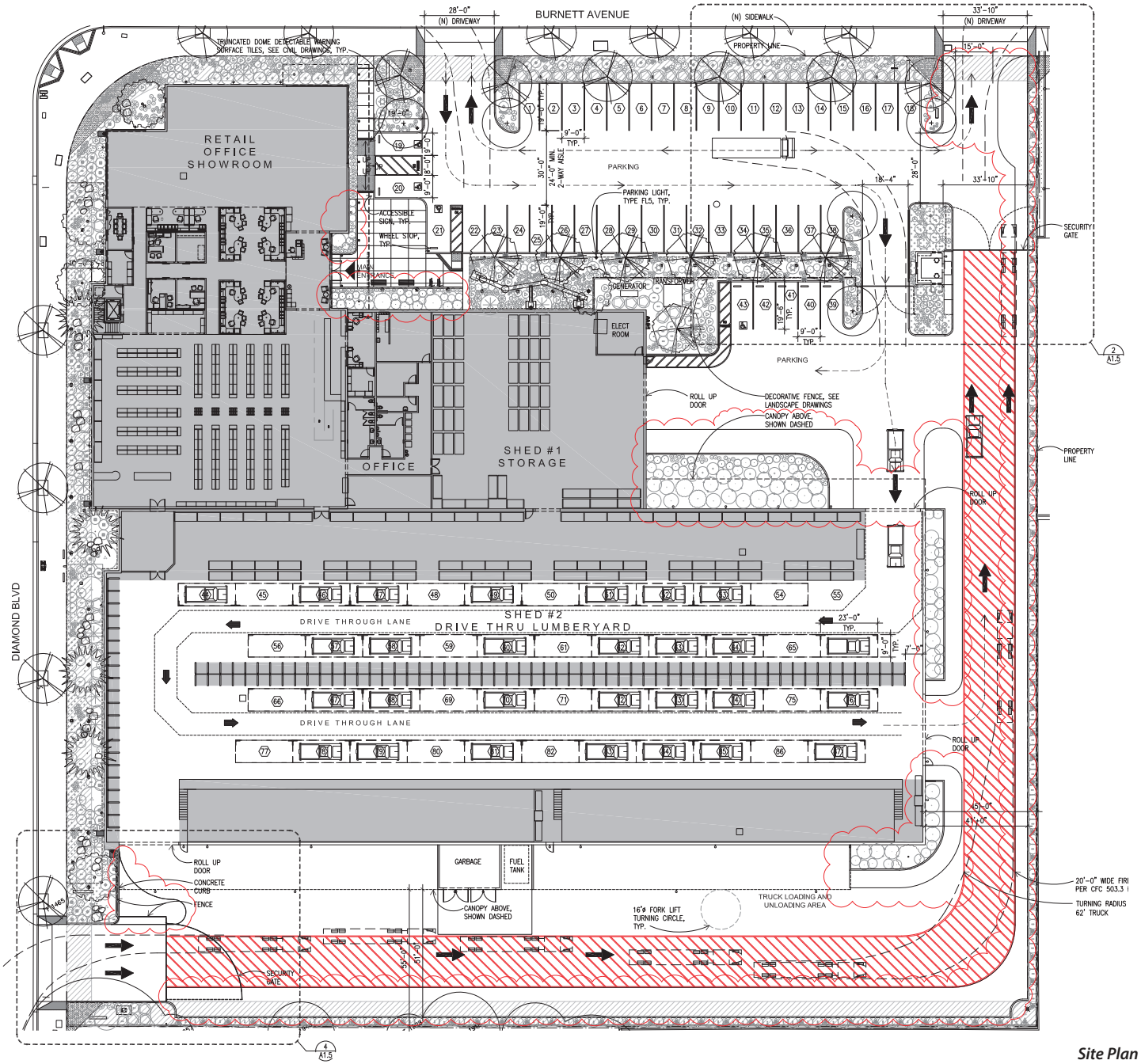
WC14-3122_1_SiteVic

LEGEND

(#) Study Intersection Project Site

Figure 1

Project Site Vicinity and Study Intersection Locations



Site Plan Source: MBH Architects

Figure 2

Conceptual Project Site Plan

ANALYSIS METHODS

The operations of roadway facilities are described with the term "level of service" (LOS). LOS is a qualitative description of traffic flow from a vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best operating conditions) to LOS F (worst operating conditions). LOS E corresponds to operations "at capacity." When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

SIGNALIZED INTERSECTIONS

Traffic conditions at signalized intersections were evaluated using the method developed by the Transportation Research Board (TRB), as documented in the 2010 *Highway Capacity Manual (*HCM*),* per the guidelines provided in the Contra Costa Transportation Authority's (CCTA) Technical Procedures which was last updated on January 16, 2013[1]. The HCM method calculates control delay at an intersection based on inputs such as traffic volumes, lane geometry, signal phasing and timing, pedestrian crossing times, and peak hour factors. Control delay is defined as the delay directly associated with the traffic control device (i.e., a stop sign or a traffic signal) and specifically includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. These delay estimates are considered meaningful indicators of driver discomfort and frustration, fuel consumption, and lost travel time.

This method is the method that is currently used by the City of Concord for evaluating intersection operations. The relationship between average control delay and LOS for signalized intersections is summarized in **Table 1**.

In Concord, acceptable operations at signalized intersections are defined as LOS E in the Central Business District of the City as specified in the Growth Management Element of the Concord 2030 General Plan. For this study, Project impacts are assessed using the HCM method.

[1] Although the Contra Costa Transportation Authority (CCTA) adopted the 2010 *Highway Capacity Manual* method in March 2013, the available software platform (Synchro 8.0) to evaluate intersection operations consistent with HCM 2010 method as implemented in Synchro has computational limitations depending on signal timing/phasing factors. As the HCM method for analyzing vehicle operations has not changed between the 2000 and 2010 HCM, the 2000 HCM was used to analyze intersections that could not be analyzed using HCM 2010.

TABLE 1
SIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Delay in Seconds
A	Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	< 10.0
B	Progression is good, cycle lengths are short, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	> 10.0 to 20.0
C	Higher congestion may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level, though many still pass through the intersection without stopping.	> 20.0 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios . Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	> 35.0 to 55.0
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	This level is considered unacceptable with oversaturation, which is when arrival flow rates exceed the capacity of the intersection. This level may also occur at high V/C ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to such delay levels.	> 80.0

Source: 2010 *Highway Capacity Manual*.

UNSIGNALIZED INTERSECTIONS

For unsignalized (all-way stop-controlled and side-street stop-controlled) intersections, the Transportation Research Board's 2010 *Highway Capacity Manual (*HCM*)* method for unsignalized intersections was used. With this method, operations are defined by the average control delay per vehicle (measured in seconds). The control delay incorporates delay associated with deceleration, acceleration, stopping, and moving up in queue. **Table 2** summarizes the relationship between delay and LOS for unsignalized intersections. At side-street stop-controlled intersections, the delay is calculated for each stop-controlled movement, the left-turn movement from the major street, as well as the intersection average. The intersection average delay and highest movement/approach delay are reported for side-street stop-controlled intersections. In Concord, acceptable operations at unsignalized intersections located in the Central Business District of the City are defined as LOS E for all-way stop-controlled and side-street stop-controlled intersections for the side-street movement, similar to signalized intersections.

TABLE 2
UNSIGNALIZED INTERSECTION LOS CRITERIA

Level of Service	Description	Delay in Seconds
A	Little or no delays	≤ 10.0
B	Short traffic delays	> 10.0 to 15.0
C	Average traffic delays	> 15.0 to 25.0
D	Long traffic delays	> 25.0 to 35.0
E	Very long traffic delays	> 35.0 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: 2010 *Highway Capacity Manual*.

REGULATORY SETTING

CITY OF CONCORD

The Project would have a significant effect relating to traffic only if it would cause an increase in traffic which is substantial in relation to the traffic load and capacity of the street system (i.e., result in a substantial or potentially substantial increase in either the number of vehicle trips, the volume-to-capacity ratio (V/C) on roads, or delay and congestion at intersections, or change the condition of an existing street (e.g., street closures, changing direction of travel) in a manner that would exceed applicable thresholds of significance.

The project site is located in the Central Business District (CBD) as defined in the *City of Concord 2030 General Plan Growth Management Element*. Based on Goals and Policies contained within the General Plan, LOS E is set as the benchmark for signalized intersections in the CBD, which includes all study intersections except for Contra Costa Boulevard & Concord Avenue/Chilpancingo Parkway intersection, which is located in the City of Pleasant Hill. For this analysis, LOS E will also be used as the benchmark for unsignalized intersections, but other factors such as signal warrants, are reviewed in the assessment.

TABLE 3
CITY OF CONCORD LEVEL OF SERVICE BENCHMARKS WITHIN THE CENTRAL BUSINESS DISTRICT

Intersection Type	LOS Standard	HCM Control Delay Per Vehicle (Seconds)[3]
Signalized Intersection[1&2]	LOS E	> 55.0 to 80.0
All-Way Stop Control[1&2] Overall Intersection	LOS E	> 35.0 to 50.0
One- and Two-Way Stop Control[1&2] Overall Intersection & Side Street Traffic	LOS E	> 35.0 to 50.0

Notes:
1. City of Concord 2030 General Plan Growth Management Element (Link to website: City of Concord).
2. City of Concord 2030 General Plan Transportation Element (Link to website: City of Concord).
3. HCM control delay per vehicle from 2010 *Highway Capacity Manual*

The City of Pleasant Hill strives to maintain Level of Service D at its intersections, which is the level of service standard applied to the Contra Costa Boulevard & Concord Avenue/Chilpancingo Parkway intersection.

REGIONAL AGENCIES

The Contra Costa Transportation Authority (CCTA) serves as the Congestion Management Agency (CMA) for Contra Costa County. CCTA adopted the county's first Congestion Management Program (CMP) in October 1991. The most recent CMP is referred to as the 2013 CMP and was adopted on December 18, 2013 (the document can be viewed at www.CCTA.net). The 2013 CMP requires an analysis of any project that is expected to generate more than 100 peak hour vehicle trips. The project is expected to generate approximately 127 vehicle trips during the morning peak hour and approximately 43 trips during the evening peak hour.

The Draft 2014 Central County Action Plan Update (CH2MHILL and DKS, 2014; the document can be viewed at www.CCTA.net) establishes Multimodal Traffic Service Objectives (MTSOs) for routes of regional significance in Walnut Creek, Pleasant Hill, Clayton, Concord, Martinez, and unincorporated Contra Costa County. For projects that are expected to generate over 100 peak hour trips, such as the proposed Project, the lead jurisdiction for the Project is required to notify neighboring jurisdictions with potential

downstream traffic impacts. While the project is expected to create more than 100 peak hour trips, no additional analysis is required to comply with the Action Plan MTSOs because the project is consistent with the City of Concord 2030 General Plan and is not expected to generate 50 or more net new peak hour vehicle trips on segments of the Routes of Regional Significance within the project study area. A qualitative assessment of the Project's potential impacts to the routes of regional significance is provided based on the analysis presented in the following chapters.

SIGNIFICANCE CRITERIA

Based on Appendix G of the CEQA guidelines (http://opr.ca.gov/docs/Inital_Study_Checklist_Form.pdf) and Principles and Policies of the City of Concord 2030 General Plan, the following was considered.

A. Would the Project 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?

    1. Would the operations of a signalized study intersection decline from acceptable (as defined in Table 3) to unacceptable based on the HCM LOS method with the addition of Project traffic;

    2. Would the Project deteriorate already unacceptable operations at a signalized intersection by increasing delay by more than 5-seconds;

    3. Would the operations of an unsignalized study intersection decline from acceptable (as defined in Table 3) to unacceptable with the addition of Project traffic, and would the installation of a traffic signal at based on the *Manual on Uniform Traffic Control Devices* (MUTCD) Peak Hour Signal Warrant (Warrant 3), be warranted;

    4. Would construction traffic from the Project have a significant, though temporary, impact on the environment, or would Project construction substantially affect traffic flow and circulation, parking, and pedestrian safety;

B. Would the Project 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 and highways?

C. Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

D. Would the Project substantially increase traffic hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

E. Would the project result in inadequate emergency access?

F. Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

    1. Would the Project generate added transit ridership that would increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute

EXISTING CONDITIONS

This chapter describes transportation facilities in the Project study area which includes intersections located directly adjacent to the project site and those that may experience up to 50 new project-related trips. This study area incorporates the surrounding roadway network, transit, pedestrian, and bicycle facilities in the Project site vicinity. Existing intersection and roadway segment operations are also described.

ROADWAY SYSTEM

The Project site is located on the southeast corner of the Diamond Boulevard at Burnett Avenue intersection. Regional vehicular access to the Project site is provided from Interstate 680, State Route 242, Concord Avenue, and Willow Pass Road. Local access is provided by Diamond Boulevard, Burnett Avenue and Meridian Park Boulevard. These roadways are described below.

Interstate 680 (I-680) is a north-south route on the west side of Concord that connects Interstate 80 near Fairfield to US Highway 101 in San Jose. Through the study area, I-680 is an eight to ten lane freeway that serves the cities of Concord, Walnut Creek, Pleasant Hill, and Martinez. The posted speed limit for I-680 is 65 miles per hour (mph). I-680, near Concord Avenue, has an Annual Average Daily Traffic (AADT) of about 134,000 vehicles (Caltrans, 2013). Interstate 680 is a designated route of regional significance by the Contra Costa County Transportation Agency (CCTA). Routes of regional significance are roadways that connect two or more subareas of Contra Costa, cross county boundaries, carry significant through traffic, and/or provide access to a regional highway or transit facility.

State Route 242 (SR 242) is a north-south freeway through Concord that connects I-680 to State Route 4. A full interchange at Concord Avenue and a partial interchange near Willow Pass Road provide access to the study area. SR 242 is a six-lane freeway with a posted speed limit of 65 mph. The portion of SR 242 near Willow Pass Road has an AADT of 116,000 vehicles (Caltrans, 2013). SR 242 is a designated route of regional significance.

Concord Avenue is designated a "Community Street" in the Concord 2030 General Plan. It is generally a six-lane road that extends east-west between I-680 in the City of Pleasant Hill and SR 242 in the City of Concord, and through Downtown Concord, where it continues as Galindo Street. The posted speed limit on Concord Avenue through the Project study area is 40 miles per hour (MPH). Concord Avenue is designated as a truck route and partially as a transit route within the City of Concord. On-street parking is

not permitted along this roadway and bicycle facilities are not provided through the study area. There are sidewalks along both sides of the roadway.

Willow Pass Road is designated a "Regional Street" in the Concord 2030 General Plan. It is generally a six-lane northeast-southwest road near the Project study area. Willow Pass Road extends from I-680 to SR 242 and then through downtown Concord to SR 4. The posted speed limit on Willow Pass Road near the Project study area is 35 MPH. Willow Pass Road is designated as a truck route and as a transit route within the City of Concord. On-street parking is not permitted and bicycle facilities are not provided through the study area. There are sidewalks along both sides of the roadway.

Diamond Boulevard is designated a "Community Street" in the Concord 2030 General Plan. It is generally a six-lane north-south road that connects Concord Avenue in the north to Willow Pass Road in the south. Diamond Boulevard is designated as a truck route between Burnett Avenue and Concord Avenue and as a transit route within the City of Concord. The posted speed limit on Diamond Boulevard is 35 MPH. On-street parking is not permitted and bicycle facilities are not provided through the study area. Meandering sidewalks are buffered by a landscaped barrier between Willow Pass Road and Willow Way, while sidewalks are provided on both sides of the roadway with no buffer between Willow Way and Concord Avenue.

Burnett Avenue is designated a "Service Street" in the Concord 2030 General Plan. It provides access to/from northbound I-680 to the west of Diamond Boulevard. It is a four-lane northeast-southwest road with on-street parking between Diamond Avenue and Meridian Park Boulevard. The on-street parking is limited to two-hour time limits directly adjacent to the Project site. This section of the roadway would provide primary access to the Project site. East of Meridian Park Boulevard the roadway transitions to two-lanes with on-street parking. Burnett Avenue is designated as a truck route and transit route between the northbound I-680 ramps and Diamond Boulevard. Bicycle facilities are not provided through the study area. The posted speed limit is 30 MPH.

Meridian Park Boulevard is designated a "Service Street" in the Concord 2030 General Plan. It is generally a north-south four-lane road with on-street parking. The posted speed limit is 30 MPH. Bicycle facilities are not provided through the study area.

Contra Costa Boulevard is a designated route of regional significance in the Central Contra Costa County Action Plan. It is a major north-south arterial that traverses the City of Pleasant Hill parallel and west of I-680. Contra Costa Boulevard serves as a commute thoroughfare, especially when congestion occurs on I-680.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

PEDESTRIAN FACILITIES

Along the perimeter of the Project site, the existing sidewalks are approximately 10 feet wide with the pedestrian travel way reduced where there are street trees. Crosswalks and pedestrian signals are provided at the adjacent signalized intersection at Diamond Boulevard and Burnett Avenue. The crosswalks in the area were restriped in October 2014.

Sidewalks are provided throughout the surrounding Project study area. Designated crosswalks are provided at all study intersections, except for the Burnett Avenue and Meridian Park Boulevard intersection where no designated crossing facilities are provided. At signalized intersections, pedestrian signals are provided.

BICYCLE FACILITIES

Bicycle facilities include the following:

- **Bike paths (Class I)** – Paved trails that are separated from roadways.
- **Bike lanes (Class II)** – Lanes on roadways designated for use by bicycles through striping, pavement legends, and signs.
- **Bike routes (Class III)** – Roadways designated for bicycle use by signs only; may or may not include additional pavement width for cyclists.

There are currently no on-street bicycle facilities throughout the Project study area. There is no signage regarding bicycle transportation in the Project vicinity. However, access to the Iron Horse Regional Trail, a multi-use regional Class I bicycle facility that extends from Concord to Pleasanton, is available at the southern end of Meridian Park Boulevard or at Diamond Boulevard, south of Willow Way.

The Concord 2030 General Plan depicts proposed Class III bike routes along Galaxy Way and Willow Way to provide connectivity with the Iron Horse Regional Trail to the east of the Project study area. The City of Concord is currently developing a Bicycle, Pedestrian and Safe Routes to Transit Plan that may identify future bicycle facilities through the Project study area, although details of such potential facilities are not currently known.

EXISTING TRANSIT SERVICE

The Central Contra Costa Transit Authority (CCCTA, County Connection) provides transit service in the City of Concord and neighboring communities. The County Connection provides one route directly adjacent to the Project site, Route 19, along Diamond Boulevard, which connects the Concord Bay Area Rapid Transit (BART) and Martinez Amtrak stations. Route 19 operates on 2-hour headways between 6:05 AM and 7:55 PM.

Within a ¼ mile of the Project site, the County Connection operates two other routes. Route 91X, known as the Concord Commuter Express, provides service from the Concord BART station along Concord Avenue to the Project site and then returns to the BART station along Willow Pass Road and Clayton Road. Route 91X operates only during peak hours with approximately 30 minute headways. Route 320 connects Diablo Valley College and the Concord BART station via Diamond Avenue through the Project study area. Route 320 operates all day on the weekdays with 45 minute headways and on the weekends from about 10:00 AM to 6:30 PM with 45 minute headways.

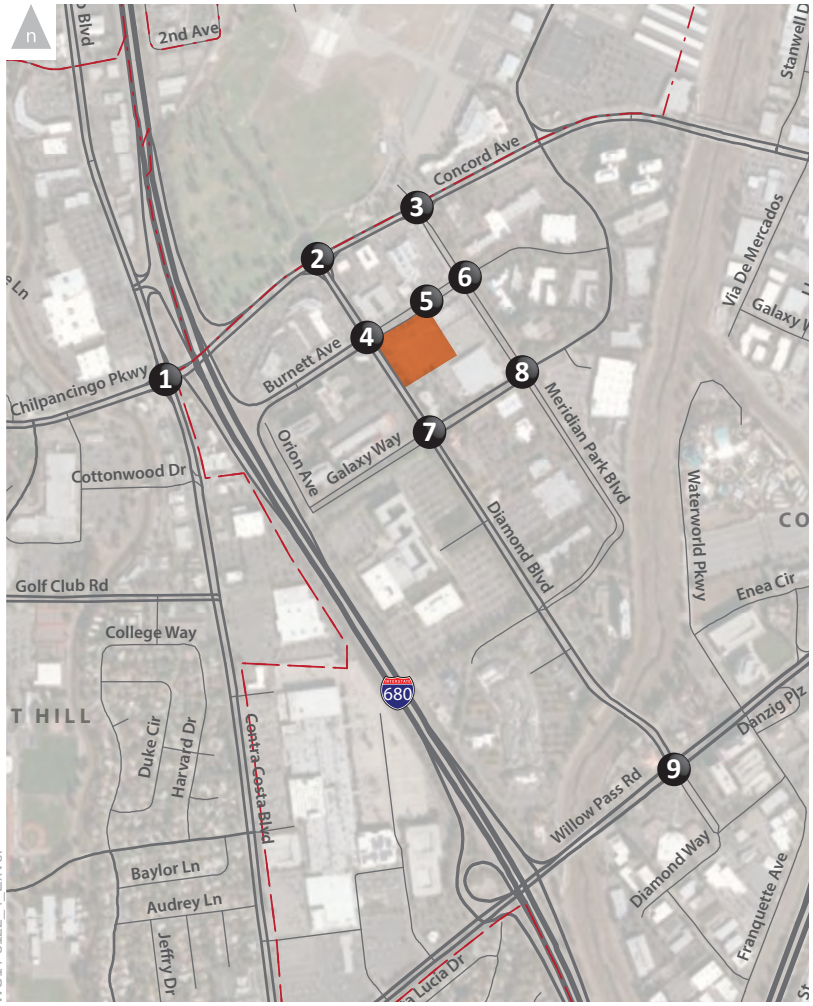
BART provides regional rail service throughout the East Bay and across the Bay to San Francisco and the Peninsula. The closest BART station to the Project site is the Concord BART station, about 1.7 miles from the study area. The Pleasant Hill/Contra Costa Centre BART Station is about 3.5 miles from the study area. The Pittsburg/Bay Point-SFO line provides service at both stations. During the peak commute hours, train headways are between 5 and 10 minutes.

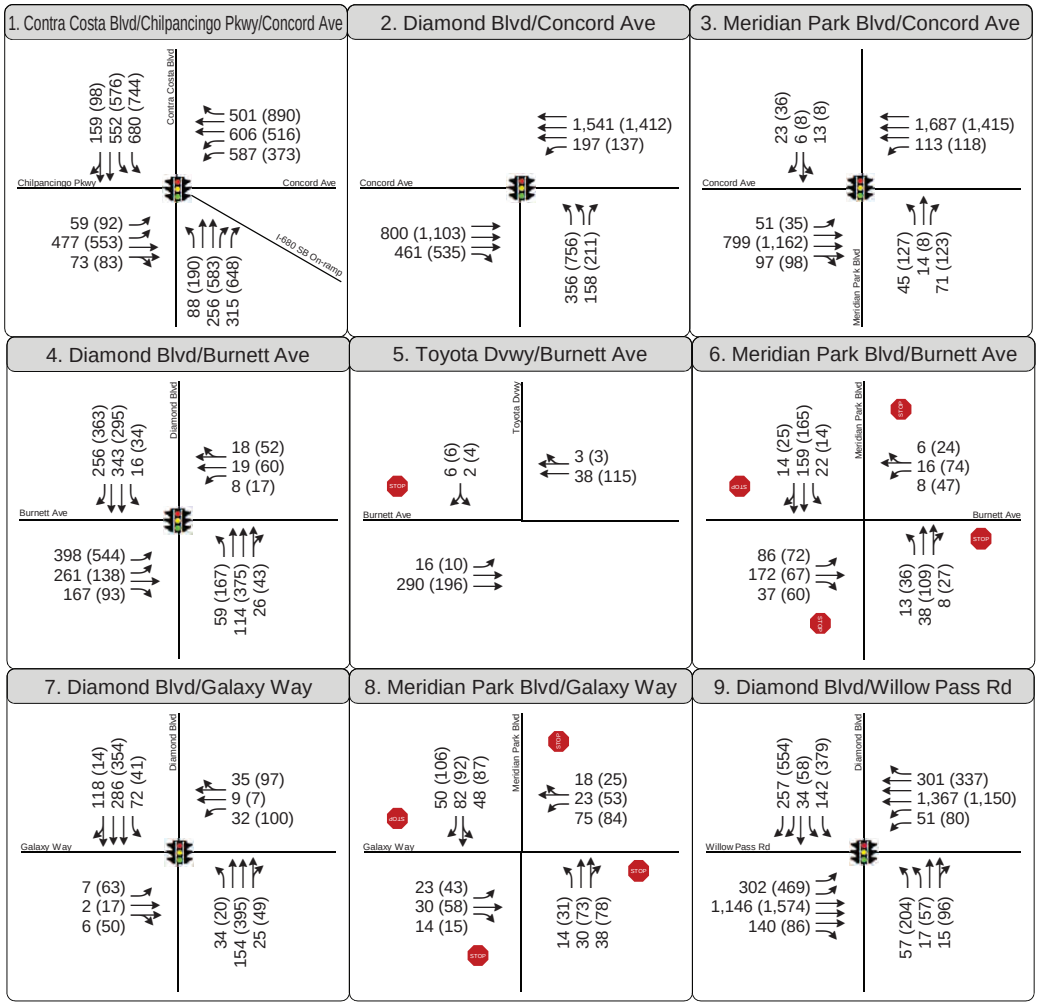
Based on information provided in BART's 2008 Station Profile Study (which can be accessed at www.bart.gov), most BART riders living in Concord use the Concord BART station. On an average weekday, approximately 11,000 people enter or exit the BART system at the Concord BART station.

EXISTING TRAFFIC COUNTS

Weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection turning movement counts were conducted at the study intersections on Tuesday, October 14th, 2014, including separate counts of trucks, pedestrians and bicyclists. For the study intersections and driveways, the single hour with the highest traffic volumes during the count periods was identified. The AM peak hour in the study area is generally from 7:30 to 8:30 AM and the PM peak hour is generally from 4:30 to 5:30 PM. The peak hour volumes are presented on **Figure 3** along with the existing lane configuration and traffic control. Existing peak hour bicycle and pedestrian activity is shown on **Figure 4**. Truck percentages

through the study intersections ranged from less than 1 percent of the total traffic to approximately 4 percent. At most intersections, heavy trucks were between 1 and 2 percent of the total traffic volume. Traffic count worksheets are provided in **Appendix A**.





LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

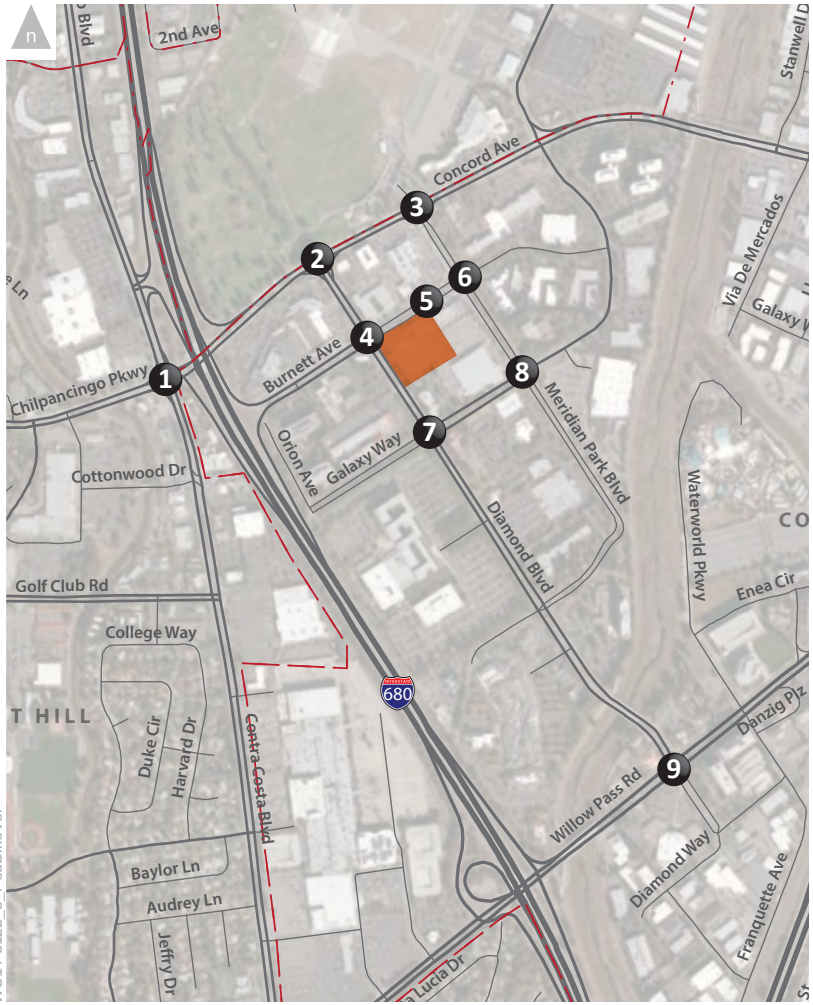
Stop Sign

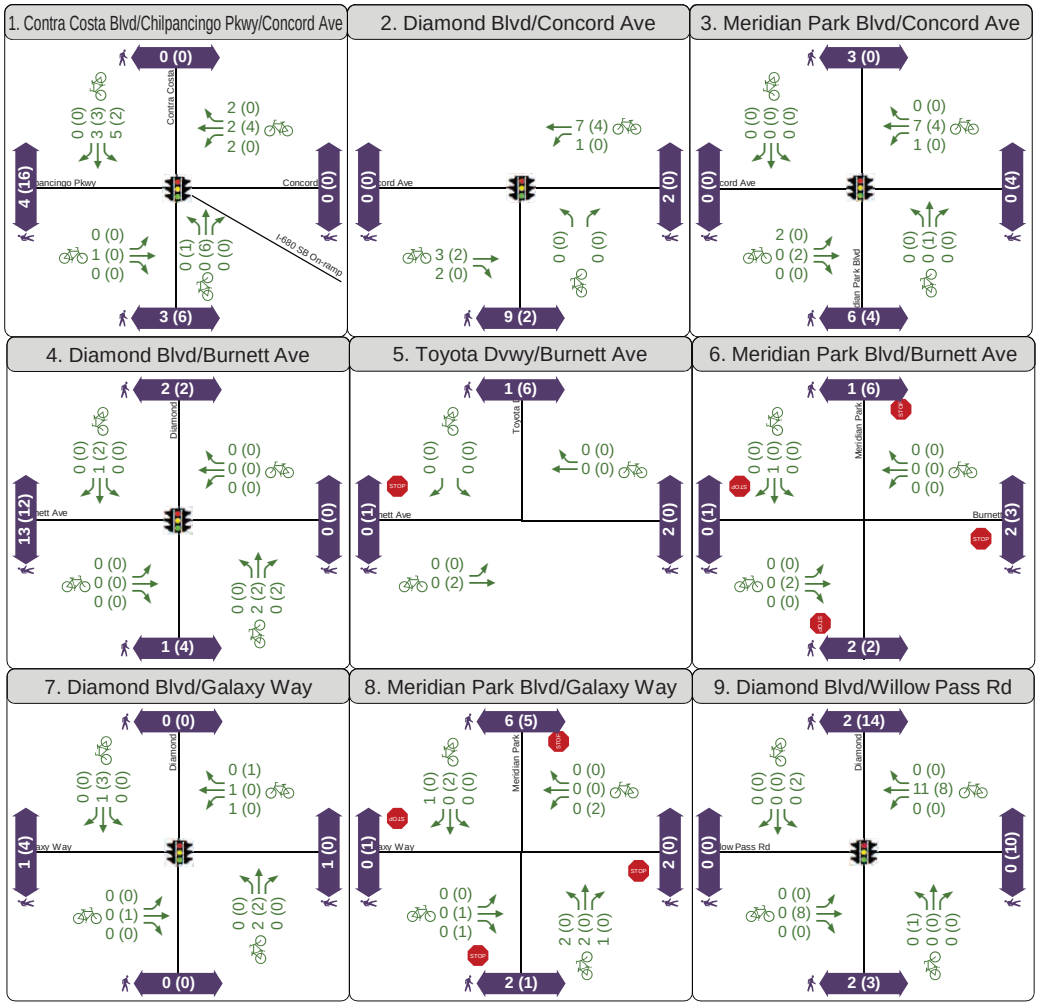
Study Intersection

Project Site

Figure 3

Existing Conditions
Peak Hour Traffic Volumes, Lane Geometry and Traffic Control





WC14-3122_5_PedBikeVol

LEGEND

- x (y) — AM (PM) Peak Hour Pedestrian Volumes
- AM (PM) Peak Hour Bicycle Volumes
- Signalized Intersection
- Stop Sign
- # — Study Intersection
- Project Site

Figure 4

Existing Conditions
Peak Hour Bicycle and Pedestrian Volumes

EXISTING OPERATIONS

INTERSECTION LEVEL OF SERVICE

Existing operations were evaluated using the method described in Chapter 1 for the weekday AM and PM peak hours at the study intersections, as summarized in **Table 4**. The analysis was based on the volumes, lane configurations and traffic control shown previously on Figure 3. Observed peak hour factors[2] were used at all intersections for the existing analysis. Truck, pedestrian and bicycle activity was factored into the analysis. Intersections within the study area experienced varying levels of truck traffic ranging from 1-4% of the total traffic volume.

As shown, study intersections generally operate at acceptable service levels in accordance with benchmarks followed by the City of Concord in **Table 3**. During the AM Peak Hour, all intersections directly adjacent to the site operated at LOS B or better. During the PM Peak Hour, all intersections directly adjacent to the Project site operated at LOS C or better. Detailed intersection LOS calculation worksheets are presented in **Appendix B**. Field observations confirmed the calculated levels of service.

SIGNAL WARRANTS

To assess the need for signalization of stop-controlled intersections, the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) (which can be accessed at mutcd.fhwa.dot.gov) presents eight signal warrants. The Peak Hour Volume Warrant and the Peak Hour Delay Warrant was used in this study as a supplemental analysis tool to assess operations at unsignalized intersections.[3] Based on this analysis, the unsignalized intersections of Burnett Avenue/Meridian Park Boulevard and Galaxy Way/Meridian Park Boulevard do not currently meet signal warrants. Signal warrant worksheets are provided in **Appendix C.**

[2] The relationship between the peak 15-minute flow rate and the full hourly volume is given by the peak-hour factor (PHF) as shown in the following equation: PHF=Hourly volume/(4* volume during the peak 15 minutes of flow). The analysis of level of service is based on peak rates of flow occurring within the peak hour because substantial short-term fluctuations typically occur during an hour.

[3] Unsignalized intersection warrant analysis is intended to examine the general correlation between existing conditions and the need to install new traffic signals. Existing peak-hour volumes are compared against a subset of the standard traffic signal warrants recommended in the MUTCD and associated State guidelines.

TABLE 4
EXISTING CONDITIONS PEAK HOUR INTERSECTION LOS SUMMARY

Intersection	Control[1]	Peak Hour	HCM[2]	
			Delay (seconds)	LOS
1. Contra Costa Boulevard & Concord Avenue / Chilpancingo Parkway	Signal	AM PM	42 48	D D
2. Concord Avenue & Diamond Boulevard	Signal	AM PM	18 28	B C
3. Concord Avenue & Meridian Park Boulevard	Signal	AM PM	13 16	B B
4. Burnett Avenue & Diamond Boulevard	Signal	AM PM	33 39	C D
5. Burnet Avenue & Toyota Driveway[3]	SSSC	AM PM	1 (9) 1 (9)	A (A) A (A)
6. Burnett Avenue & Meridian Park Boulevard	AWSC	AM PM	9 9	A A
7. Galaxy Way & Diamond Boulevard	Signal	AM PM	6 13	A B
8. Galaxy Way & Meridian Park Boulevard	AWSC	AM PM	9 11	A B
9. Willow Pass Road & Diamond Boulevard	Signal	AM PM	23 46	C D

Notes: Results are based on Synchro 8. Intersection count data for AM and PM volumes were collected in October 2014.

1. AWSC = All-way stop controlled intersection; Signal = signalized intersection; SSSC = side street stop control.
2. Average intersection delay is calculated for all signalized intersections using the 2010 Highway Capacity Manual (HCM) methods.
3. For SSSC, two delay and LOS values are given: intersection average Delay and LOS, followed by the worst side street movement delay and LOS in parentheses.

Source: Fehr & Peers, 2014. Intersection LOS worksheets can be found in Appendix B of this document.

PROJECT CHARACTERISTICS

This chapter provides an overview of the proposed Project components and addresses the proposed Project trip generation, distribution, and assignment characteristics, allowing for an evaluation of Project impacts on the surrounding roadway network. The amount of traffic associated with the Project was estimated using a three-step process:

1) **Trip Generation** – The *amount* of vehicle traffic entering/exiting the Project site was estimated.
2) **Trip Distribution** – The *direction* trips would use to approach and depart the site was projected.
3) **Trip Assignment** – Trips were then *assigned* to specific roadway segments and intersection turning movements.

PROJECT DESCRIPTION

The proposed Project would construct a lumber yard facility on a vacant 3.5 gross acre parcel located at the intersection of Diamond Boulevard and Burnett Avenue in the City of Concord. As part of the Project, a two-story retail building (19,925 square feet) would house a showroom on the first floor and employee offices on the second floor. Directly attached to the retail building would be two storage sheds that would house the main lumber storage/operations, as well as additional office space. Shed 1 (9,600 square feet) includes a small storage area with bays for lumber and some office use. Shed 2 includes a total of 44,413 square feet and is the main lumber yard facility with larger lumber bays and an internal drive aisle and vehicle parking. The vehicular circulation and parking areas are approximately 24,874 square feet and are not included in the trip generation or parking calculations. Approximately 19,539 square feet within Shed 2 is associated with lumber yard uses and was included in the square footage used to calculate trip generation and parking requirements. Internal connections are provided between these areas on the site. In total, there are 49,064 square feet of enclosed space proposed that is not associated with vehicle circulation, including the retail building, Shed 1, and the portion of Shed 2 associated with lumber yard uses. Loading spaces for customers are provided within Shed 2, which has been designed to accommodate passenger vehicles, including pick-up trucks and pick-up trucks with trailers.

As proposed, three driveways would provide access to the site with right-in and/or right-out access only due to the medians on Diamond Boulevard and Burnett Avenue. The main vehicle entrance is on Burnett Avenue and serves the parking lot area. Vehicle access to Shed 1 and Shed 2 to pick up materials would be from an access controlled gate in the parking lot area. To exit the property from the lumber yard building, an exit only driveway is provided to Burnett Avenue on the eastern edge of the project site.

A designated delivery truck entry is located on Diamond Boulevard at the southern end of the property and follows the southern and eastern perimeter of the site with an exit onto Burnett Avenue. The delivery truck unloading area is located on the southern side of the Shed 2. Delivery trucks accessing the site from Interstate 680 would exit the freeway at Willow Pass Road, turn left to Diamond Boulevard, and enter the site from the delivery vehicle only driveway. Deliveries from third party vendors to the Concord Facility are expected 2 to 3 times per day (one large semi-truck per delivery), Monday through Friday, with most deliveries occurring in the early morning hours. Deliveries from the Golden State Lumber Concord facility to local customers are expected 10 to 15 times per day, Monday through Friday, and 2 to 3 times on Saturday.

Operating hours of the facility are Monday – Friday from 6:00 AM to 5:00 PM, Saturday from 7:00 AM to 4:00 PM, and closed Sunday similar to other Golden State Lumber facilities. On average, the Concord facility would be staffed by approximately 27 employees.

PROJECT TRIP GENERATION

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates were created for the peak one-hour periods during the morning and evening commute periods when traffic volumes on the adjacent streets are highest. Typically, trip generation would be estimated using rates in the Institute of Transportation Engineers *Trip Generation Manual* (9th Edition) for land use category number 812 (building materials and lumber store). However, use of the ITE rates suggested that the proposed project would generate significantly more traffic during the weekday PM peak hour than expected, as the facility would close each weekday at 5:00 PM. Therefore, based on guidance provided in the ITE *Trip Generation Handbook*, 3rd Edition, trip generation surveys of similar facilities were conducted.

Abrams Associates prepared a preliminary trip generation and parking demand survey of similar facilities, including other Golden State Lumber facilities and a non-Golden State Lumber facility in Concord. This study is provided in **Appendix D**. Building on the information that was provided in the Abrams report, Fehr & Peers resurveyed all the Golden State Lumber facilities originally surveyed by Abrams Associates (Brisbane and Newark sites), and conducted surveys of the San Rafael and Stockton Golden State Lumber facilities.

For locations where multiple days of data were available, the driveway counts were averaged, as presented in **Table 5.** Independent variables were documented for each site, including number of employees, building square footage and site acres. It should be noted that all other facilities have some

level of outdoor lumber yard area that is not reflected in the building square footage. The proposed Project does not have any outdoor storage. Morning and evening peak hour trip generation rates for the independent variables were then calculated. The observed trips and resulting trip generation rates varied by location. However, the Golden State Lumber Stockton facility is well beyond the physical scale of the other facilities and the observed trips fell below a reasonable range from the other sites. For these reasons, the data from the Stockton facility was excluded from the rest of the analysis. Observed trips suggest trip generation from similar facilities is highest during the AM peak hour.

TABLE 5
OBSERVED TRIPS BY FACILITY

Facility	Location Characteristics			Observed Trips[1]	
	Number of Employees	Retail/Comm Space (1000 s.f.)	Property Size (Acres)	AM Peak Hour	PM Peak Hour
Golden State Brisbane[1]	40	47	6.5	146	43
Golden State Newark[1]	30	73	6.1	49	34
Golden State San Rafael[1]	80	61	5.0	266	40
Golden State Stockton	77	250	25.8	13	16
Ashby Lumber Concord[2]	25	45	2.6	84	62

Notes:

1. For sites with multiple days of observations and/or sites with observations from the Abrams report, the observed trips were averaged for the individual sites to produce one AM and one PM peak hour trip value.
2. From the Abrams Associates *Trip Generation and Parking Analysis for the Proposed Golden State Lumber Project in the City of Concord*, 2014.

The average trip generation rates were then calculated for each of the independent variables in order to compare them with the rates from the prior study and with published ITE rates. As shown in **Table 6**, the newly derived rates for all three independent variables show an increase in AM trips and a slight decrease in PM trips compared to the original surveys from the Abrams report. Additionally, the observed rates are a better reflection of Golden State Lumber's proposed operation than ITE Rates.

TABLE 6
COMPARISON OF PEAK HOUR PROJECT TRIP GENERATION RATES

Data Source	Rate Per Employee		Rate Per 1,000 S.F. Building Area		Rate Per Acre	
	AM	PM	AM	PM	AM	PM
ITE – Building Materials and Lumber Store (LU CODE 812)	2.42	2.77	4.16	5.56	-	-
Abrams Associates Report	2.70	1.63	1.66	0.95	19.64	12.34
Revised Observed Rates	**2.99**	**1.29**	**2.50**	**0.85**	**28.98**	**10.94**

Source: Fehr & Peers, 2014.

Based on the comparison of trip generation rates and consultation with City staff, Fehr & Peers used the trip generation rate per 1,000 S.F. of building area based on the 50,714 square feet of indoor area devoted to active uses, not vehicle circulation and parking. This approach yielded the highest level of trip generation as compared to the other independent variables, as shown in **Table 7**. The resulting trip generation estimates from Table 7 show the proposed Project is estimated to generate approximately 127 AM peak hour vehicle trips and 43 PM peak hour vehicle trips.

TABLE 7
PROJECT TRIP GENERATION ESTIMATES

	Characteristic	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Golden State Lumber Concord	49,064 Square Feet	64	59	123	16	26	42
	27 Employees	42	39	81	13	22	35
	3.5 Acres	53	48	101	14	24	38

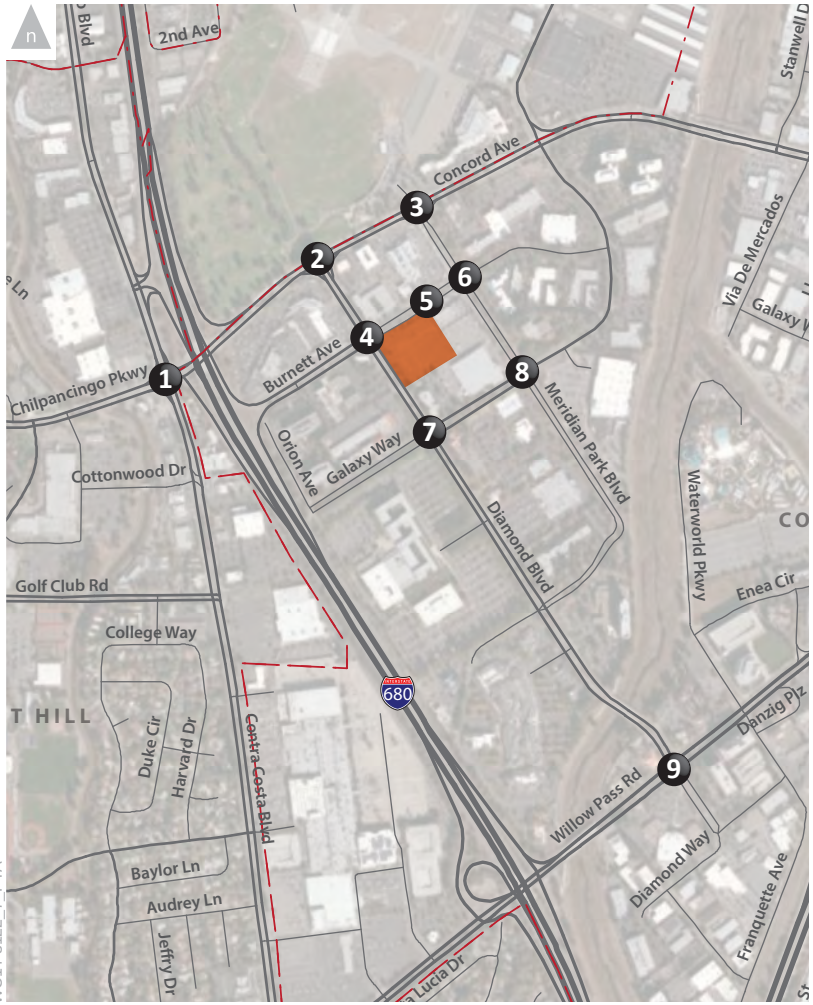
Source: Fehr & Peers, 2015.

PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

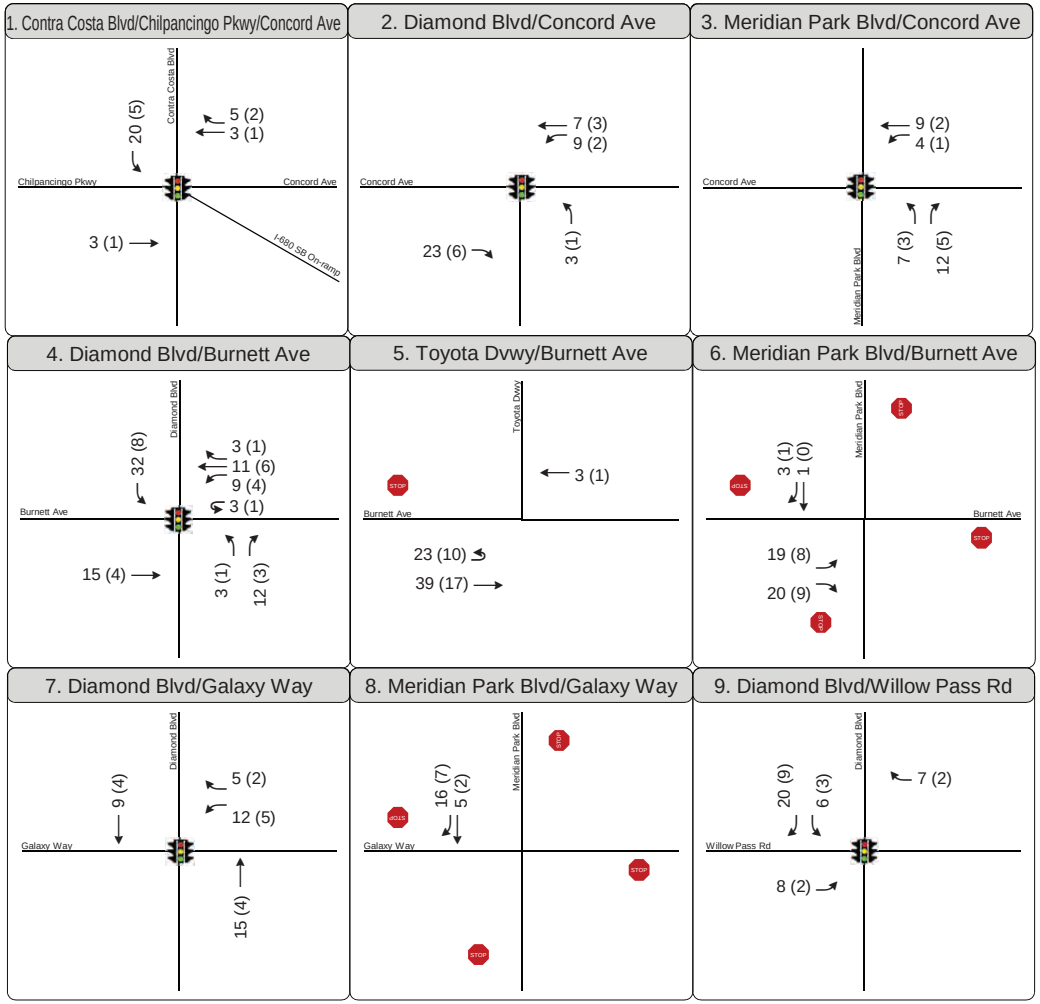
Based on the location of the project site, existing traffic patterns, location of complementary land uses, such as residences from which employees and customers may come from/depart to, and a select zone

analysis using the Contra Costa Transportation Authority travel demand model, trip distribution percentages were developed as depicted on **Figure 5.**

The Project study area has direct access to I-680. Based on the data described above, approximately half of Project trips are expected to travel on I-680 with approximately 25 percent to the north and 25 percent to the south. Approximately 15 percent of Project trips are expected to use State Route 242, with the remaining trips originating from the surrounding street network. Project trips were then assigned to the various routes and specific intersection turning movements. The resulting Project trip assignment and Project-related intersection volumes are shown on **Figure 6**.



WC14-3122_7_PTA



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

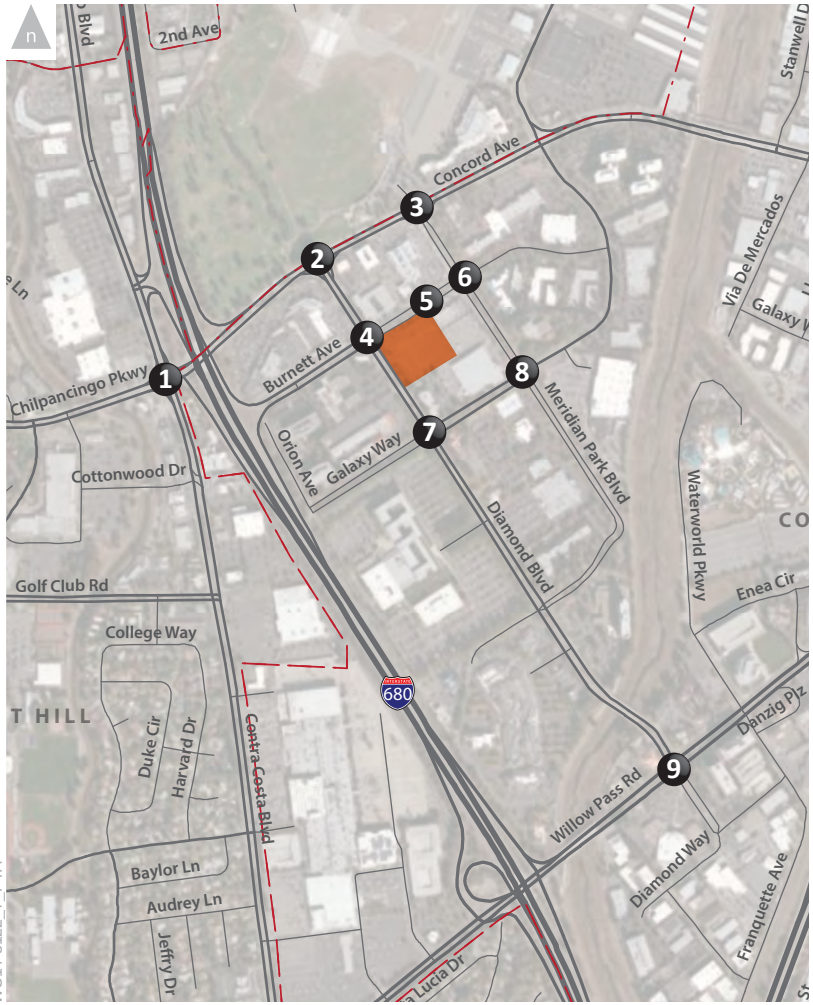
Stop Sign

Study Intersection

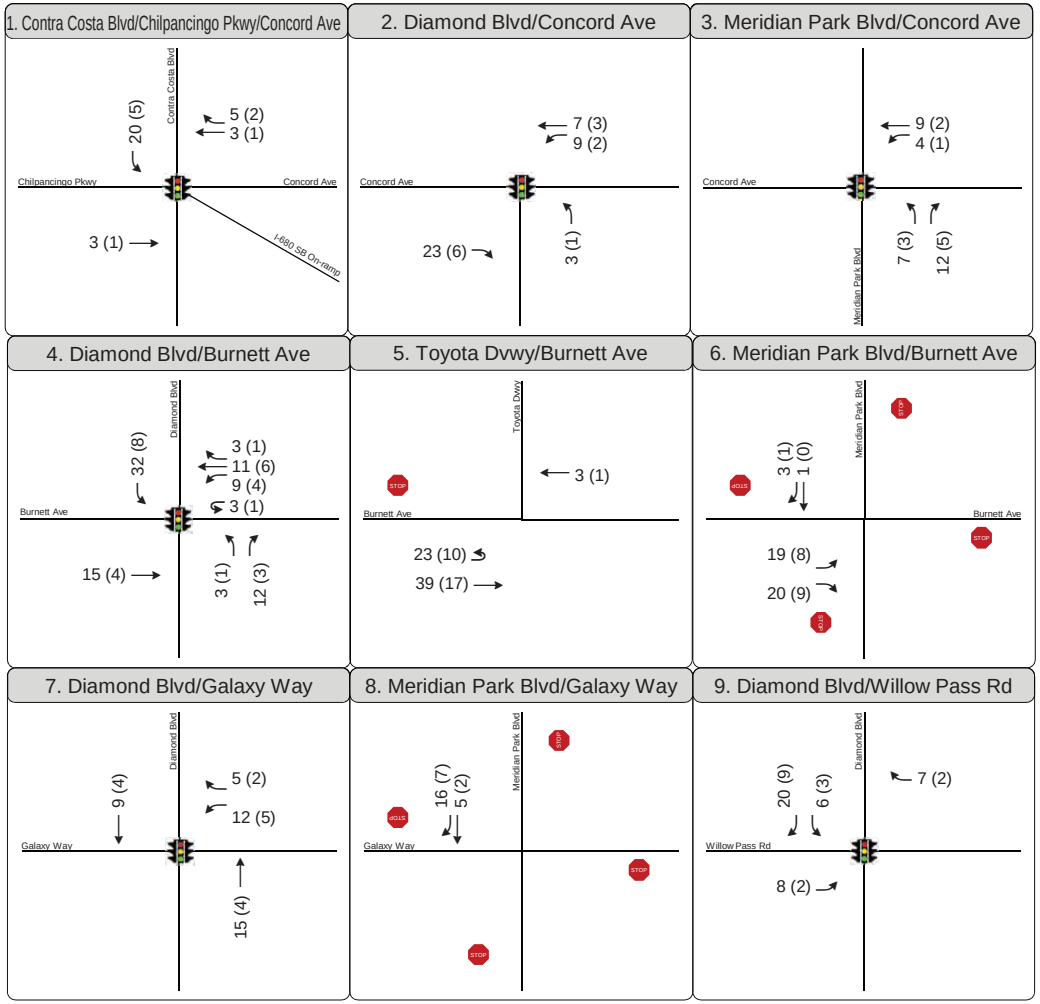
Project Site

Figure 6

Project Trip Assignment



WC14-3122_7_PTA



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

Study Intersection

Project Site

Figure 6

Project Trip Assignment

EXISTING PLUS PROJECT CONDITIONS

This chapter evaluates potential off-site traffic impacts under Existing Plus Project conditions.

EXISTING PLUS PROJECT TRAFFIC VOLUMES AND ROADWAY IMPROVEMENTS

The Project-only traffic volumes (Figure 6) were added to the existing peak hour traffic volumes (Figure 3) to estimate the Existing Plus Project peak hour intersection turning movement volumes, as shown on **Figure 7**. No roadway improvements were assumed for this scenario.

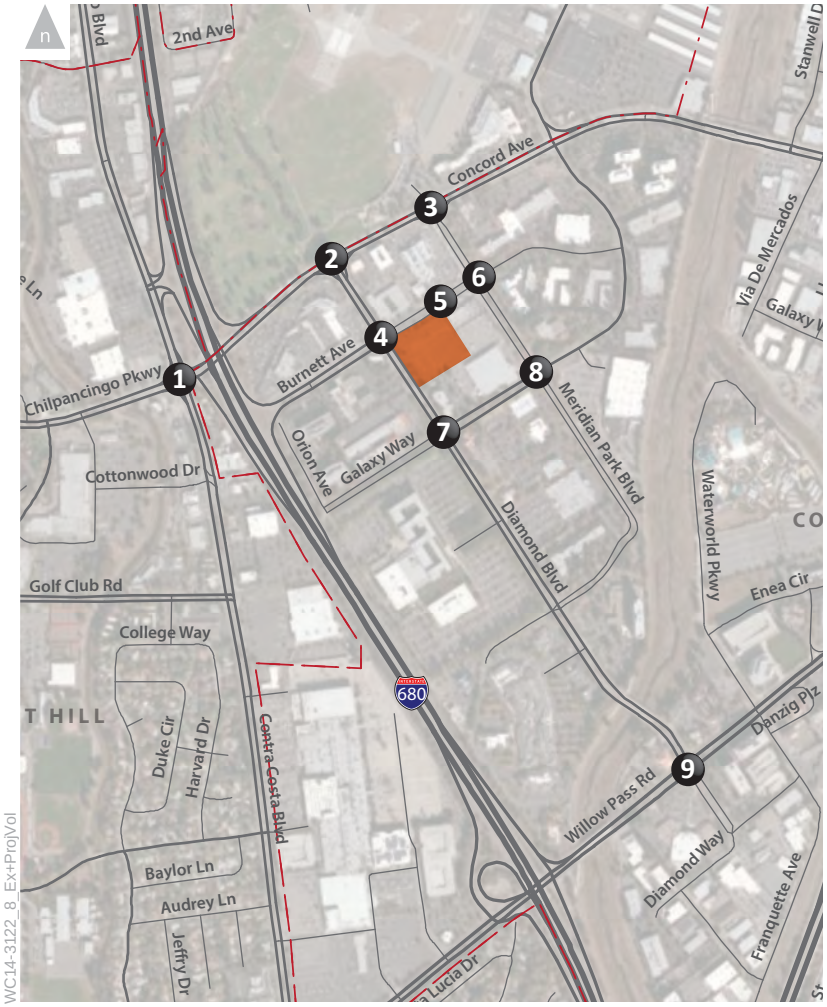
ANALYSIS OF EXISTING PLUS PROJECT CONDITIONS

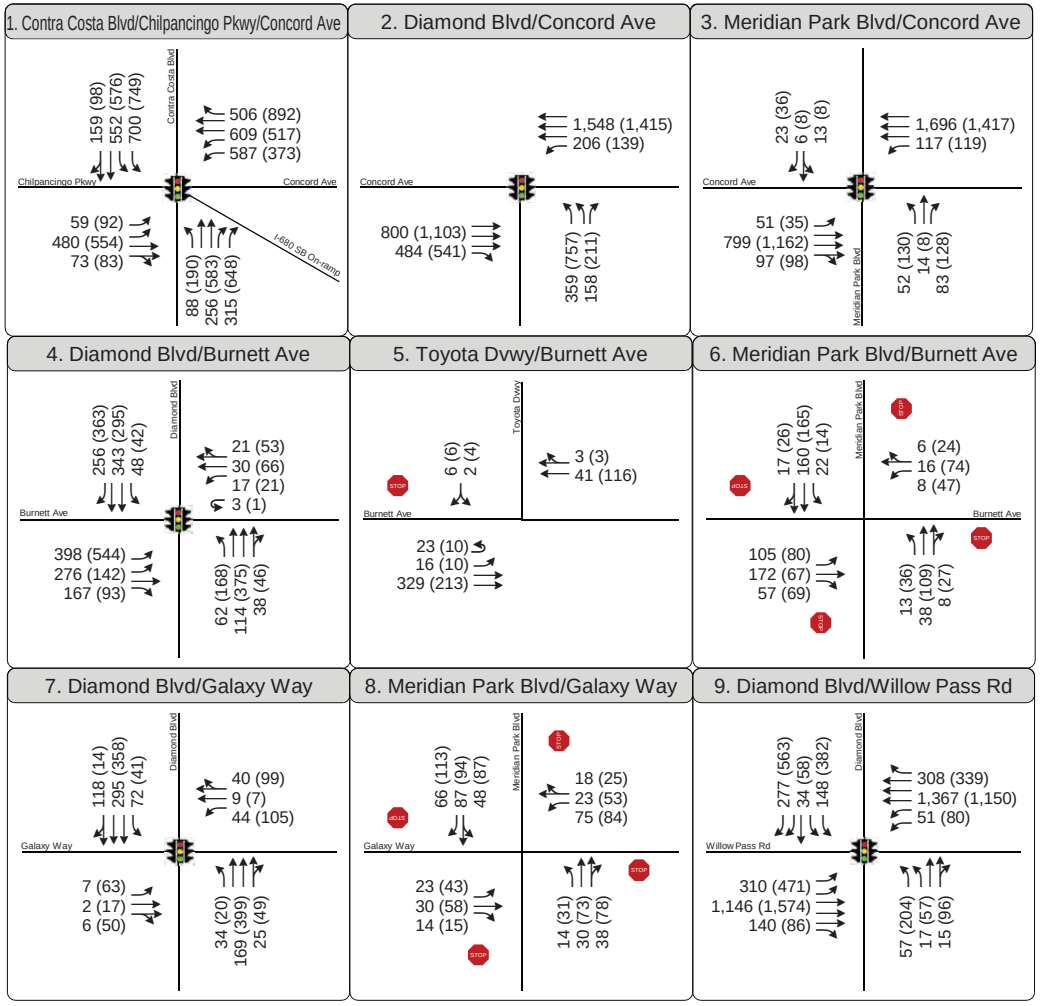
INTERSECTION LEVELS OF SERVICE

Existing Plus Project conditions were evaluated using the same methods described in Chapter 1. The Existing Plus Project analysis results are presented in **Table 8**, based on the traffic volumes and lane configurations presented on Figure 7. Traffic signal timings, peak hour factors, and bicycle and pedestrian volumes at the intersections were assumed to remain the same. As the project is expected to generate truck traffic at the same proportion as currently travels through the intersections (1-4% of the total traffic volume through intersections), no changes were made to the assumed level of truck traffic at the study intersections to maintain consistency with existing conditions. As mentioned previously, the Golden State Lumber Concord facility will have 2 to 3 semi-truck deliveries per day and so will not significantly contribute to overall truck traffic throughout the Project study area. Most trips made to the facility would be in the form of contractor pick-up trucks (some with trailers) and other passenger vehicles. Table 8 also includes the operations results for the Existing conditions for comparison purposes.

The addition of Project traffic is expected to slightly increase delay at some study intersections and result in no change to average delay at other intersections. The addition of Project traffic would not change the overall intersection LOS at any of the study intersections and study intersections would continue to operate at acceptable service levels based on the level of service standard.

Based on this analysis, the near-term impact of the Project on peak hour intersection operations is considered ***less-than-significant***.





WC14-3122_8_Ex+ProjVol

LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

Study Intersection

Project Site

Figure 7

Existing Plus Project Conditions
Peak Hour Traffic Volumes, Lane Geometry and Traffic Control

TABLE 8
EXISTING CONDITIONS PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control[1]	Peak Hour	Existing		Existing Plus Project[4]	
			Delay[2,3]	LOS[3]	Delay[2,3]	LOS[3]
1. Contra Costa Boulevard & Concord Avenue / Chilpancingo Parkway	Signal	AM PM	42 48	D D	44 49	D D
2. Concord Avenue & Diamond Boulevard	Signal	AM PM	18 28	B C	18 28	B C
3. Concord Avenue & Meridian Park Boulevard	Signal	AM PM	13 16	B B	13 17	B B
4. Burnett Avenue & Diamond Boulevard	Signal	AM PM	33 39	C D	35 40	C D
5. Burnet Avenue & Toyota Driveway	SSSC	AM PM	1 (9) 1 (9)	A (A) A (A)	1 (9) 1 (9)	A (A) A (A)
6. Burnett Avenue & Meridian Park Boulevard	AWSC	AM PM	9 9	A A	9 9	A A
7. Galaxy Way & Diamond Boulevard	Signal	AM PM	6 13	A B	7 13	A B
8. Galaxy Way & Meridian Park Boulevard	AWSC	AM PM	9 11	A B	9 11	A B
9. Willow Pass Road & Diamond Boulevard	Signal	AM PM	23 46	C D	24 46	C D

Notes:
1. SSSC = side-street stop controlled intersection; AWSC = all way stop control; Signal = signalized intersection.
2. Average intersection delay calculated for signalized intersections using the *2010 HCM* method.
3. For SSSC intersections, average delay or LOS is listed first followed by the delay or LOS for the worst approach in parentheses.
4. Intersection impact analysis conducted based on the trip generating potential of 49,064 square foot lumber facility with a calculated Golden State Lumber specific trip generation rate.

Source: Fehr & Peers, 2014.

SIGNAL WARRANT ASSESSMENT

Using the same procedure as the Existing conditions, the Peak Hour Volume Warrant and the Peak Hour Delay Warrant were used in this study as a supplemental analysis tool to assess operations at unsignalized intersections in the Existing Plus Project conditions. Detailed signal warrant worksheets are provided in the **Appendix C,** which show that the unsignalized intersections of Burnett Avenue/Meridian Park

Boulevard and Galaxy Way/Meridian Park Boulevard would not meet signal warrants in the existing or existing plus project condition. Additionally, these intersections operate within acceptable levels of delay with the addition of project traffic (See Table 8) and no changes to the intersection traffic control are recommended.

EXISTING CONDITIONS OFF-SITE IMPROVEMENT MEASURES

Off-site intersection impacts of the proposed Project were found to be less-than-significant in the Existing Plus Project condition based on the significance criteria. However, there could be temporary, impacts during the construction phase of the Project. Golden State Lumber has indicated that the Concord site can accommodate most of the construction vehicles and materials on-site; however, materials and equipment must be delivered to the site. Conditions of approval are identified and are recommended to be included during the entitlement process.

Impact Statement 1: Potential temporary transportation system impacts during the construction phase of the proposed project include the potential to disrupt traffic flows on area roadways. Additional impacts may result during the construction phase of the proposed project, when there are heavy-duty construction vehicles sharing the roadway with normal vehicle traffic, creating potential conflicts between incompatible uses. Construction impacts would be temporary in nature.

> ***Condition of Approval 1:*** The applicant shall develop a construction management plan to reduce the potential for construction vehicle conflicts with other roadway users. The plan shall be submitted to staff for review and approval prior to the issuance of the first permit and should include:
>
> - Project staging plan to maximize on-site storage of materials and equipment
> - A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure proceedings; signs, cones, and other warning devices for drivers; and designation of construction access routes
> - Permitted construction hours
> - Location of construction staging
> - Provisions for street sweeping to remove construction related debris on public streets

CUMULATIVE TRAFFIC CONDITIONS

This chapter discusses Cumulative traffic conditions both without and with the Project. The future traffic conditions analysis considers the build out of the Project as well as new development and roadway improvements in the surrounding areas.

CUMULATIVE ROADWAY ASSUMPTIONS

No physical roadway improvements were assumed at any of the study intersections for the analysis of Cumulative conditions. Within the area, the extension of Commerce Avenue over Pine Creek, providing a connection from Concord Avenue to Willow Pass Road via Waterworld Parkway was assumed to have occurred. Upgrades to the State Route 242/Clayton Road interchange were also considered to have been constructed. Although these improvements do not affect the capacity of any of the study intersections, they contribute to potential traffic shifts in the area.

CUMULATIVE TRAFFIC FORECASTS

Cumulative forecasts were developed using the Contra Costa Transportation Authority (CCTA) travel demand model and considered approved and pending projects in the immediate study area. Fehr & Peers analyzed the changes in traffic volumes between the 2010 base year and the 2040 forecast year in the study area from the CCTA model. The 2040 forecasts reflect development in the Downtown area consistent with the Downtown Specific Plan and redevelopment of the Concord Naval Weapons Station site.

Review of morning and evening peak period traffic volumes on roadways in the study area indicate that traffic volumes on some roadways remain the same, or even decrease slightly, while volumes on other roadways have slight increases over the next 25 years. Volume decreases are likely due to changing travel patterns in the area from the provision of new roadways. Based on this review, a 10 percent growth rate was applied to the existing peak hour traffic volumes at the study intersections.

In addition to the application of a growth rate, a list of approved and potential projects in the study area was obtained from City of Concord staff. One project has the potential to increase traffic in the study area, a 100,000 square foot senior living facility (Oakmont Assisted Living Facility). The net-new trips generated by that project, based on its traffic study, were added to the existing traffic counts increased by a 10 percent growth rate. That study is provided in **Appendix E**.

The resulting Cumulative Without Project Forecasts are presented on **Figure 8**. The peak hour Project volumes (Figure 6), calculated during the trip generation process, were added to the Cumulative Without Project traffic volumes to determine cumulative traffic volumes with the proposed Project, as presented on **Figure 9.**

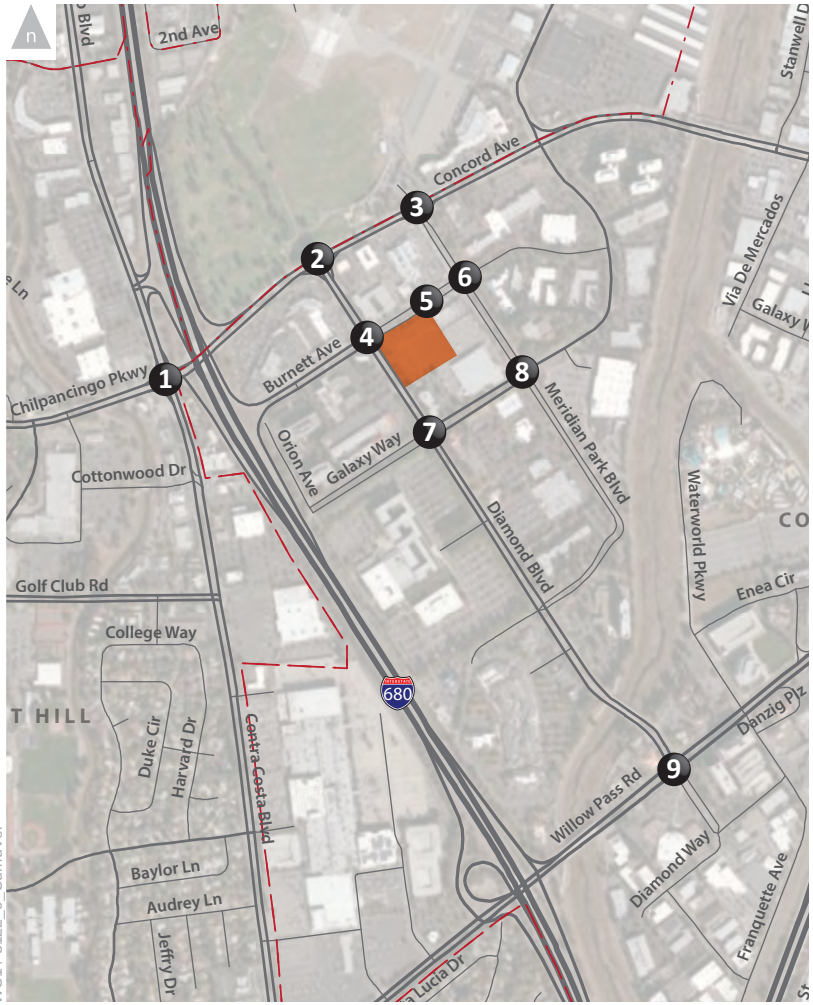
ANALYSIS OF CUMULATIVE CONDITIONS

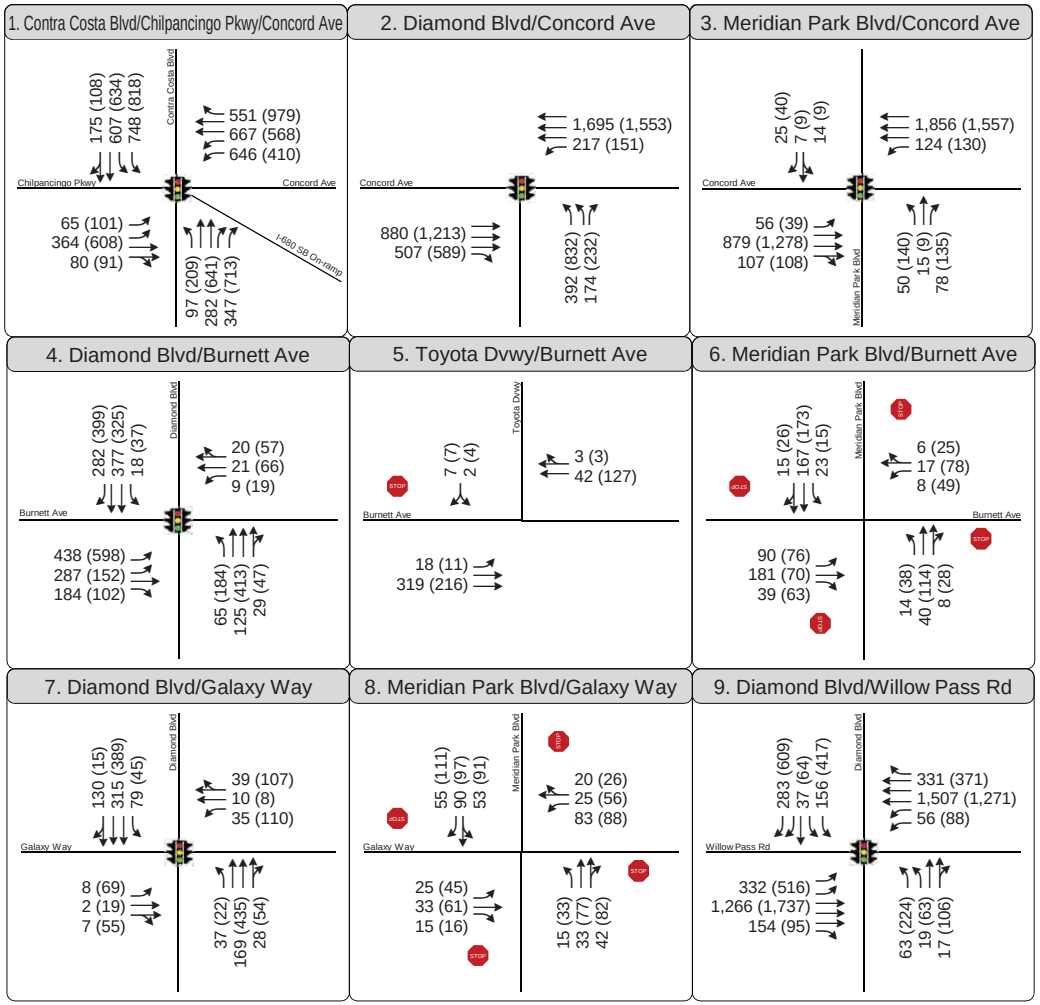
INTERSECTION LEVELS OF SERVICE

Intersection operations were evaluated using the same methods outlined in Chapter 1. Peak hour factors, heavy vehicle percentages, and bicycle and pedestrian volumes remain unchanged from the analysis of existing conditions. The Cumulative Without and With Project conditions analysis results are presented in **Table 9.**

In the Cumulative Without Project condition, signalized study intersections are expected to operate at level of service D or better, except for the Contra Costa Boulevard at Concord Avenue/Chilpancingo Parkway intersection, which is projected to operate at level of service E during the evening peak hour. With the addition of Project-related traffic to the Cumulative without Project traffic forecasts, intersection delay is expected to increase two seconds in the AM and one second in the PM during the evening peak hour at the Contra Costa Boulevard at Concord Avenue/Chilpancingo Parkway intersection, however, the LOS is not expected to change. The remaining signalized intersections would continue to operate at LOS D or better in the cumulative condition with the addition of Project traffic.

Unsignalized study intersections are projected to operate at acceptable levels in the cumulative condition and the addition of Project traffic is not expected to degrade the operation of unsignalized study intersections.





WC14-3122_9_CumuVol

LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

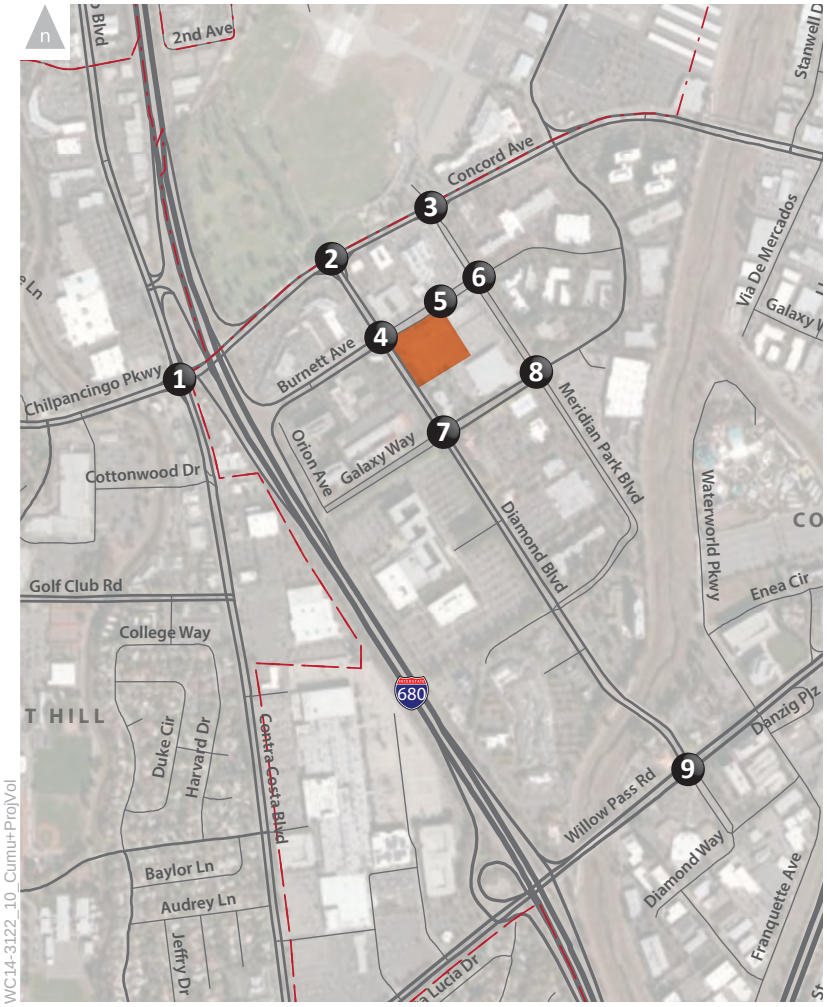
Stop Sign

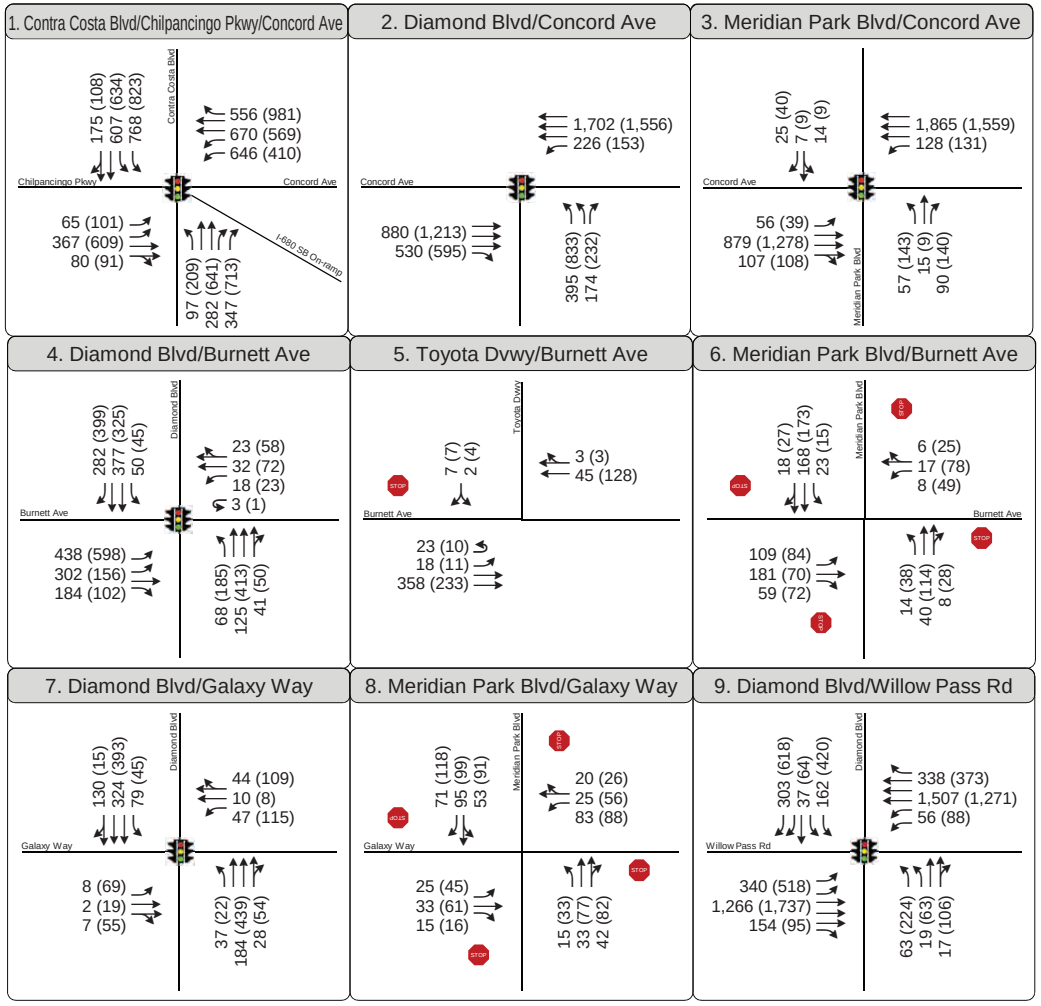
Study Intersection

Project Site

Figure 8

Cumulative without Project Conditions
Peak Hour Traffic Volumes, Lane Geometry and Traffic Control





LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volumes

Signalized Intersection

Stop Sign

Study Intersection

Project Site

WC14-3122_10_Cumu+ProjVol

Figure 9

Cumulative Plus Project Conditions
Peak Hour Traffic Volumes, Lane Geometry and Traffic Control

TABLE 9
CUMULATIVE CONDITIONS
PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Control[1]	Peak Hour	Cumulative Without Project		Cumulative With Project[4]	
			Delay[2,3]	LOS[3]	Delay[2,3]	LOS[3]
1. Contra Costa Boulevard & Concord Avenue / Chilpancingo Parkway	Signal	AM PM	52 57	D E	54 58	D E
2. Concord Avenue & Diamond Boulevard	Signal	AM PM	18 28	B C	18 28	B C
3. Concord Avenue & Meridian Park Boulevard	Signal	AM PM	14 17	B B	14 18	B B
4. Burnett Avenue & Diamond Boulevard	Signal	AM PM	34 40	C D	35 41	C D
5. Burnet Avenue & Toyota Driveway	SSSC	AM PM	1 (9) 1 (9)	A (A) A (A)	1 (9) 1 (9)	A (A) A (A)
6. Burnett Avenue & Meridian Park Boulevard	AWSC	AM PM	9 11	A B	9 10	A B
7. Galaxy Way & Diamond Boulevard	Signal	AM PM	6 13	A B	7 13	A B
8. Galaxy Way & Meridian Park Boulevard	AWSC	AM PM	9 11	A B	9 11	A B
9. Willow Pass Road & Diamond Boulevard	Signal	AM PM	25 51	C D	25 52	C D

Notes:
1. SSSC = side-street stop controlled intersection; AWSC = all way stop control; Signal = signalized intersection.
2. Average intersection delay calculated for signalized intersections using the *2010 HCM* method.
3. For SSSC intersections, average delay or LOS is listed first followed by the delay or LOS for the worst approach in parentheses.
4. Intersection impact analysis conducted based on the trip generating potential of a 49,064 square foot lumber facility with a calculated Golden State Lumber specific trip generation rate.

Source: Fehr & Peers, 2014.

SIGNAL WARRANTS

The Peak Hour Volume Warrant and the Peak Hour Delay Warrant from the Manual of Uniform Traffic Control Devices (MUTCD) were used as a supplemental analysis tool to assess operations at unsignalized intersections in the Cumulative Without Project conditions. Based on this analysis detailed in Appendix C, the unsignalized intersections of Burnett Avenue/Meridian Park Boulevard and Galaxy Way/Meridian Park Boulevard would not meet signal warrants in either the Cumulative or Cumulative With Project condition. Additionally, these intersections are projected to operate within acceptable levels of delay in the Cumulative condition with the addition of project traffic (See Table 9) and no changes to the intersection traffic control are recommended.

ROUTES OF REGIONAL SIGNIFICANCE OPERATIONS

The Draft Central County Action Plan Update establishes Multimodal Traffic Service Objectives (MTSOs) for routes of regional significance in Walnut Creek, Pleasant Hill, Clayton, Concord, Martinez, and unincorporated Contra Costa County. Projects that are expected to generate over 100 peak hour trips, such as the proposed Project, the lead jurisdiction for the Project is required to notify neighboring jurisdictions with potential downstream traffic impacts.

As the proposed Project is consistent with the Land Use Designation for the site identified in the 2030 General Plan, office and commercial use, and would not increase traffic volumes on routes of regional significance in the study area by more than 20 peak hour trips in any direction, the impact to routes of regional significance is considered less-than-significant and no additional analysis is required.

CUMULATIVE IMPACTS

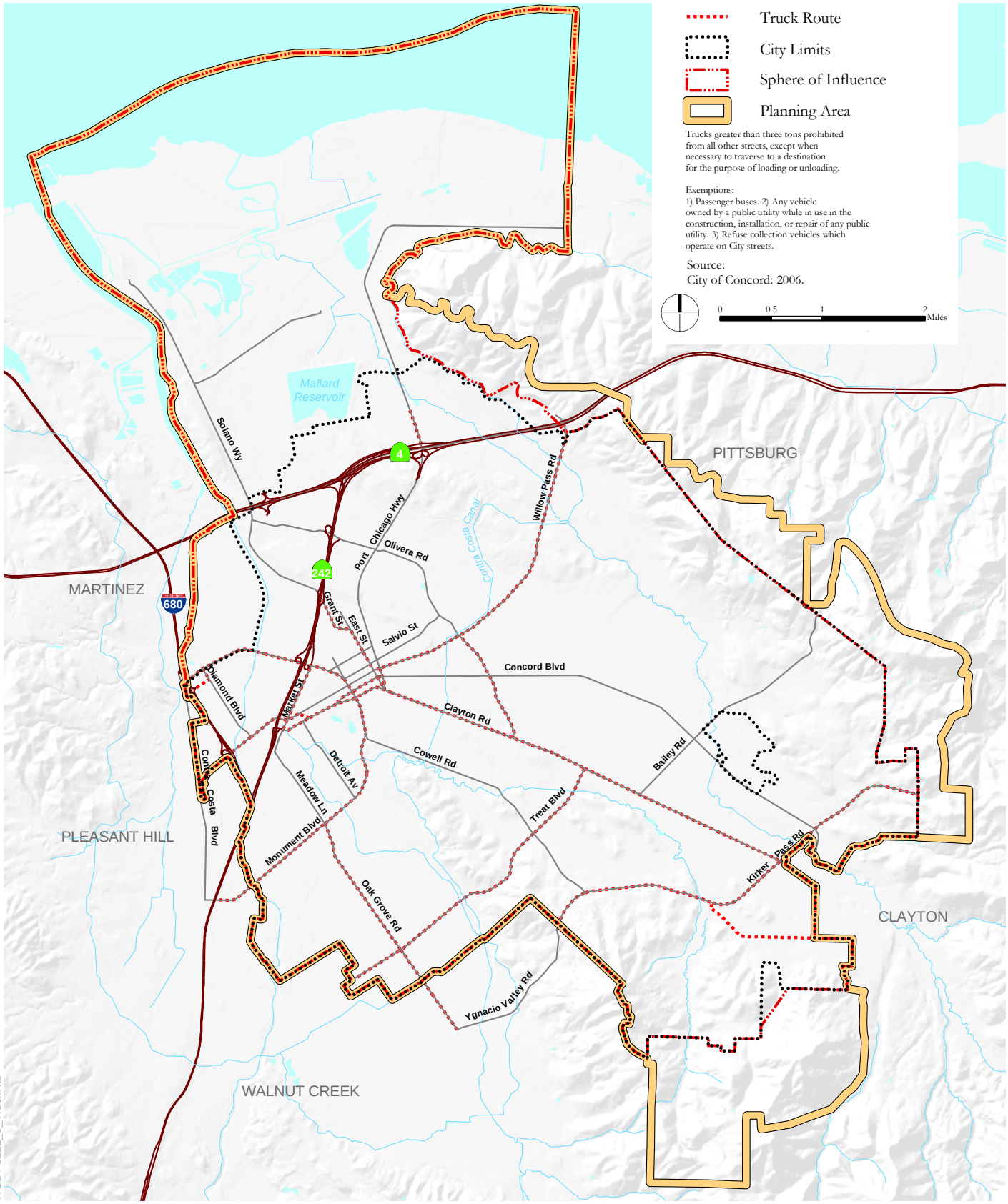
One intersection is projected to operate deficiently in the cumulative condition prior to the addition of Project traffic, Contra Costa Boulevard at Concord Avenue/Chilpancingo Parkway, which is projected to operate at level of service E in the PM peak hour. The addition of Project traffic could increase delay by approximately 1 second. As this increase is less than 5-seconds, based on the significance criteria presented in Chapter 1, this potential impact is considered ***less-than-significant*** and no project specific mitigation is required. City of Pleasant Hill staff was contacted and concurs that this potential impact is less-than-significant.

TRUCK ROUTES, ACCESS, AND SAFETY

TRUCK ROUTES

The project site is located in the vicinity of designated truck routes as identified in the *Concord 2030 General Plan,* including Burnett Avenue that forms the northern boundary of the project site. Designated truck routes are designed to allow truck traffic to pass through the City of Concord with minimal impact on residential neighborhoods as well as local vehicular and pedestrian traffic. Trucks are allowed on other roadways within the City when making deliveries. The following routes are designated as truck routes in the *Concord 2030 General Plan* and are shown on **Figure 10**.

- **Diamond Boulevard** is the primary route near the Project site that carries truck traffic to and from northbound I-680. Diamond Boulevard has a planted median that separates traffic and does not have on-street parking to reduce potential conflicts with truck traffic.
- **Burnett Avenue** provides direct access to the on- and off-ramps for northbound I-680. A raised median separates traffic and on-street parking is prohibited from the freeway ramps to Diamond Boulevard.
- **Concord Avenue** provides an east to west connection for truck traffic through the City of Concord and connects with the downtown. Concord Avenue features wide travel lanes, restricted on-street parking, and wide planted medians to separate traffic.
- **Willow Pass Road** provides northbound and southbound access to and from I-680. Willow Pass Road allows truck access to the south of the Project site and features wide travel lanes, restricted on-street parking, and wide planted medians to separate traffic.
- **Contra Costa Boulevard (City of Pleasant Hill)** provides northbound and southbound to and from I-680. Contra Costa Boulevard features wide travel lanes, restricted on-street parking, and wide planted medians to separate traffic. Contra Costa Boulevard provides a continuous connection along a truck route through the City of Pleasant Hill to the City of Concord's truck route network.



Note: Truck Route designation was removed from Farm Bureau Road on April 22, 2014 by the City of Concord City Council.

Figure 10

City of Concord Designated Truck Routes

TRUCK ACCESS

Delivery trucks would primarily access the project site from either the northbound I-680 off-ramp at Burnett Avenue or the southbound I-680 off-ramp onto Contra Costa Boulevard or Willow Pass Road. Delivery trucks may need to use streets other than those along designated truck routes to access the delivery entrance on Diamond Boulevard. Trucks are permitted to travel on non-designated truck routes to make deliveries. Trucks utilizing the northbound I-680 off-ramp would need to circulate around the project site along Burnett Avenue, Meridian Park Boulevard, Galaxy Way, and Diamond Boulevard to the designated delivery truck entry located on Diamond Boulevard at the southern end of property. Likewise, trucks using the southbound I-680 off-ramp on Contra Costa Boulevard would likely travel along Concord Avenue to Meridian Park Boulevard and follow the similar path of travel along Galaxy Way to Diamond Boulevard. Trucks using the Willow Pass Road exit would travel along Willow Pass Road to Diamond Boulevard. Should trucks need to access the site from SR 242, those vehicles would exit at Concord Avenue, turn left to Meridian Park Boulevard, right to Galaxy Way, and right to Diamond Boulevard.

The local streets that the delivery trucks could utilize, mentioned above, are utilized by similar vehicles that supply a home improvement store with a lumber facility, a grocery store, auto dealerships, and other commercial establishments. These roadways have been designed to accommodate truck traffic and include adequate corner radii and sight distances to enable trucks to circulate to/from the delivery entrance/exits and return to the designated truck route system.

All delivery vehicles would enter using the Diamond Boulevard driveway. This delivery truck driveway is 31'-0"-feet wide. There is adequate room for trucks to pull into the site and unload all materials on-site. Approximately 2 to 3 large lumber deliveries from third party vendors are expected each day. The delivery truck unloading area is located on the southern side of the Shed 2. From the southern driveway on Diamond Boulevard, trucks would use the internal circulation roadway that follows the southern and eastern perimeter of the site with exit onto Burnett Avenue from the exit only driveway. Trucks would then need to turn left on Meridian Park Boulevard to return to Concord Avenue. From Concord Avenue, trucks could follow designated truck routes to return to either northbound or southbound I-680 on-ramps at Burnett Avenue and Concord Avenue, respectively.

TRUCK SAFETY

As the project includes regular truck deliveries, potential truck safety issues were reviewed. The review focuses on delivery vehicle queuing, pavement conditions and visibility.

DELIVERY VEHICLE QUEUEING

The primary delivery times from third party suppliers would generally occur during early mornings. Normal operating procedures for other Golden State Lumber facilities include keeping the delivery gate open during all potential delivery times such that delivery vehicles do not need to stage on the street. This minimizes the potential for delivery vehicles to queue on adjacent local roadways. However, if the gate was locked or the delivery entrance blocked, there is potential for delivery vehicles to queue along Diamond Boulevard.

Diamond Boulevard is a designated truck route between Burnett Avenue and Concord Avenue, north of the project site; although not a designated truck route south of Burnett Avenue, the portion of the Diamond Boulevard adjacent to the project site has similar design features as the truck route portion, including a six-lane cross-section, similar lane widths, restricted on-street parking, no loading zones, and a 35 mile per hour posted speed limit.

Should a delivery vehicle be queued on Diamond Boulevard at the driveway for any reason during the morning peak hour when deliveries are scheduled to occur, the roadway volumes along this segment of Diamond Boulevard is approximately 250 vehicles during the Cumulative AM peak hour conditions (see Figure 8). Over three northbound lanes, the hourly capacity is approximately 2,400 vehicles. Should one lane be blocked, there is sufficient capacity for through traffic in the other travel lanes and room for vehicles to maneuver around a delivery vehicle if necessary.

The Diamond Boulevard driveway is also located approximately 55 feet from a driveway serving an office building. If a delivery vehicle was waiting on Diamond Boulevard to enter the site there is a potential that the truck would block the driveway serving the office building to the south. The office building does have another driveway on Galaxy Way that vehicles would be able to circulate to if a truck is temporarily waiting on the street.

> ***Condition of Approval 2:*** Restrict arrival time of delivery vehicles to the operating hours of the facility to avoid delivery vehicle staging on Diamond Boulevard. The designated delivery truck entrance should be left open during peak delivery times to prevent truck staging on Diamond Boulevard.

PAVEMENT CONDITIONS

Rough pavement conditions or potholes can dislodge materials on delivery trucks and lead to potential safety issues for pedestrians, bicyclists, and other vehicles along the roadway. The local roadways adjacent

to the project are regularly maintained by the City of Concord and the roadway has recently been resurfaced near the intersection of Burnett Avenue and Diamond Boulevard. The roadway segments where trucks will circulate to access the delivery entrance along Burnett Avenue, Meridian Park, and Diamond Boulevard show some minor cracks, but are generally in good conditions with no potholes. Based on the level of truck traffic associated with the project, an increased rate of pavement degradation is not expected.

VISIBILITY

The delivery route features turns with large curb radii that allow trucks to maintain visibility while making turns. Although on-street parking is not restricted along Burnett Avenue, Meridian Park Boulevard, and Galaxy Way, parking is not allowed near the intersection approaches which allows trucks to maintain visibility of potential pedestrians or bicyclists that may wish to cross intersections where trucks need to make turns.

On-street parking is restricted along Diamond Boulevard where the proposed delivery driveway is located. This would allow trucks to maintain visibility of potential bicyclists or pedestrians utilizing the easternmost travel lane or the sidewalk. Trucks could then allow those other users to reach a safe distance away before pulling into the project site to reduce the risk of conflicts.

SITE PLAN REVIEW

This chapter analyzes site access and internal circulation for vehicles, pedestrians, bicycles, and emergency vehicles based on the site plan presented previously on Figure 2. Site recommendations are summarized on **Figure 11.**

VEHICULAR SITE ACCESS AND CIRCULATION

Access to the site would be provided from three driveways, all restricted to right-in and/or right-out operations only due to the medians on Diamond Boulevard and Burnett Avenue. The main vehicle entrance is proposed on Burnett Avenue, approximately 150-feet from Diamond Boulevard. This driveway would be 28-feet wide and provide for right-in/right-out operation. A secondary exit only driveway, 33'-8"-feet in width, would also be location on Burnett Avenue approximately 190 feet east of the first driveway. The Diamond Boulevard driveway is located approximately 200 feet south of Burnett Avenue, and 55 feet north of the driveway serving the adjacent property. It is 31 feet wide and would provide restricted right-in only access to the truck delivery area.

Based on the level of expected trip generation and access restrictions, the site driveways are expected to operate at acceptable service levels. Although the western most Burnett Avenue driveway has been designed to accommodate two-way travel, during periods of peak activity on the site there could potentially be conflicts with vehicles entering and exiting the site, especially when there are trucks with trailers.

> ***Condition of Approval 3:*** Restrict the westernmost Burnett Avenue driveway on the Project site to right-in only operation with the use of cones or similar devices during peak periods on an as-needed basis.

Once vehicles enter the site from Burnett Avenue, they can either park their vehicle or drive through the guard shack to the drive-through yard to select and load materials. Customers that park their vehicles and enter the retail store can purchase hardware supplies or place an order for future delivery and pick-up. Customers unfamiliar with site operations may park and enter the retail showroom, and then be directed to the drive-through yard area to select and load materials.

Customers familiar with site operations, or who have placed an advanced order can directly proceed to the drive-through yard to select and load materials. Once materials have been selected and loaded,

customers will proceed to a check-out station, and then continue through the guard shack for final check-out before proceeding to the site exit on Burnett Avenue.

Most materials are expected to be selected and loaded by customers. However, there are some items where staff assistance would be required. These items would be out of reach and labeled *Ask for Assistance*.

Golden State Lumber also plans to provide delivery service, with 10 to 15 deliveries scheduled throughout the day, Monday through Friday, and 2 to 3 deliveries on Saturdays. This level of activity is captured in the expected level of morning and evening peak hour trip generation presented in Chapter 3. Smaller delivery vehicles would load materials directly from the drive-through yard, while larger delivery vehicles could be loaded on the southern side of the Shed 2, if necessary.

Approximately 2 to 3 deliveries from third party vendors are expected each day. The delivery truck unloading area is located on the southern side of the Shed 2.

Fehr & Peers conducted an AutoTurn analysis of the site to determine if various sizes of customer, employee, and delivery vehicles would be able to navigate through the lumber yard and parking lot. For this assessment, AutoTurn 8.2 software, developed by Transoft Solutions, was used. AutoTurn is computer aided design (CAD) based vehicle turn and path analysis software that is used to help evaluate vehicle maneuvers for all types of roadway, highway, and site design projects. Caltrans has endorsed AutoTurn as the best model for turn-path analysis. For this analysis, we used a variety of vehicle types, including pick-up trucks with trailers and semi-trucks. The turning radii and angles used in the AutoTurn assessment are taken from measurements from actual vehicles and incorporated into the simulation templates. However, AutoTurn presents a conservative assessment of turning movements; trained, professional drivers have greater maneuverability than suggested by AutoTurn.

Figure 11 also details the results of the AutoTurn analysis for a large semi-truck around the perimeter of the site. A simulation of a truck with a trailer (42 feet total in length) was the largest vehicle that was able to enter through the main entrance on Burnett Avenue, traverse the parking lot and circulate through Shed 2.

From the Diamond Boulevard entrance, the largest semi-truck with a trailer that can enter from Diamond Boulevard and reverse into the covered truck unloading area attached to Shed 1 was 45.5 feet in length. Larger delivery vehicles would be able to enter the site from Diamond Boulevard and use the unloading area attached to Shed 2. All of these vehicles would be able to exit the site using the right-turn only exit

driveway onto Burnett Avenue. The largest delivery trucks planned to access the facility are 45-feet in length and the AutoTurn analysis shows that travel by larger trucks can be accommodated through the site. To access the site from Diamond Boulevard, semi-trucks would need to make a wide turn by entering the middle lane and then turning into the site. However, with relatively low northbound Diamond Boulevard volumes during the AM peak period when deliveries are set to occur, semi-trucks would be able to complete these turns without impeding through travel on Diamond Boulevard.

> ***Recommendation:*** Consider installing mountable curbs along the interior perimeter of the project site to allow extra room for trucks to maneuver through tight turns. Mountable curbs, sometimes referred to as roll curbs, have sloping faces that allow vehicles to encroach on them without damaging tires and wheels.

The AutoTurn analysis of Shed 2 indicates a few potential conflict points between maneuvering vehicles and proposed parking spaces within the larger Shed 2.

> ***Condition of Approval 4***: Create a routing plan for larger vehicles that is communicated to all Golden State Lumber vendors and incorporate signage to communicate preferred paths of travel.
>
> ***Condition of Approval 5:*** Remove the four (4) highlighted parking spaces on **Figure 11** to allow vehicles to easily navigate the site.

EMERGENCY VEHICLE ACCESS

Several factors determine whether a project has sufficient access for emergency vehicles, including:

1. Number of access points (both public and emergency access only)
2. Width of access points
3. Width of internal roadways

Each of these factors is discussed in further detail below.

The Project site plan shows three vehicle access points. If one of these roadways was blocked or obstructed, emergency vehicles would have an alternative route to access the site. The AutoTurn assessment indicated that the project driveways and internal circulation can accommodate large vehicles, such as fire trucks. Therefore, the Project is not expected to result in deficient emergency access.

FULL ACCESS TO OFFICE DRIVEWAY ON BURNETT AVENUE

The potential to provide a median break on Burnett Avenue to modify an existing right-in/right-out driveway to provide enhanced access to an existing office building driveway on the north side of Burnett Avenue was reviewed. With median modifications, left-in access could be provided in a safe manner in addition to the current right-in/right-out operations.

The building is located on the northeast corner of the Diamond Boulevard at Burnett Avenue intersection. Access to that site is currently provided by a full access driveway on Diamond Boulevard and a right-in/right-out driveway on Burnett Avenue. The addition of project traffic is not expected to appreciably affect access to the office building parking lot based on the analysis presented in the preceding chapters.

Considering the existing level of traffic on Burnett Avenue plus additions from the proposed project, provision of a full access driveway at this location (i.e., by also introducing left-out access) may not degrade vehicle operations along the corridor. However, it is not recommended because left-out access is not necessary to maintain access to the office building site. Left-out access would also introduce additional turn movement conflicts and potential safety concerns with increased collision hazard along the corridor and would result in closely spaced intersections along Burnett Avenue.

PEDESTRIAN ACCESS AND CIRCULATION

Diamond Boulevard and Burnett Avenue have approximately 10-foot sidewalks along the project perimeter that are in average condition. Street trees provide a buffer between vehicles and pedestrians. On-street parking is also permitted on Burnett Avenue that provides an additional buffer between vehicle traffic and pedestrian movements. The sidewalks would remain the same width with implementation of the project. Additional street trees would also be provided along the project frontage.

Pedestrian crossings are provided on all four approaches at the Diamond Boulevard and Burnett Avenue intersection adjacent to site. Adequate pedestrian crossings were provided at all of the study intersections, except for the Meridian Park Boulevard and Burnett Avenue intersection. No direct pedestrian crossings are provided at this intersection and pedestrians must walk around the medians into potential traffic to cross at three of the four approaches.

Given the nature of the project, significant levels of pedestrian activity are not expected. Some employees may take transit to the area, and walk from nearby transit facilities. Pedestrians would access the site from a path connecting Burnett Avenue to the main retail showroom entrance. On-site pedestrian activity

would largely be due to customers and employees walking from their vehicles in the parking lot to the retail showroom entrance through the main drive aisle. ADA accessible parking spaces are provided with direct access to the sidewalks.

BICYCLE ACCESS AND CIRCULATION

Regional bicycle access is provided by the Iron Horse Regional Trail which is located a half mile from the main entrance to the site. No designated bicycle facilities are provided adjacent to the Project site. The Concord 2030 General Plan proposed the addition of a Class III bicycle route along Galaxy Way, south of the Project site, which would connect to the Iron Horse Regional Trail. The implementation of this project would not preclude the provision of planned bicycle facilities in the area.

The City of Concord Municipal Code (§ 18.160.120) specifies the requirements for short- and long-term bicycle parking. Short-term bicycle parking spaces shall be provided equal to five percent of the required vehicles space, with a minimum of two spaces per site. Short term bicycle parking shall be located in a highly visible space within 50 feet of the main building entrance. With the 64 vehicle parking spaces required (see the following section on parking) this would equate to three (3) bicycle spaces. Any establishment with 25 or more employees shall provide long-term bicycle parking at a ratio of 10 percent of the required vehicle spaces. This would equate to seven (7) long-term bicycle spaces required for the proposed Project. In addition, 50 percent of long-term spaces are required to be covered by a building, roof overhang, awning, or bicycle locker. Bicycle parking is indicated on the proposed Site Plan; while the number of bicycle parking spaces is not clearly identified, the Concord Development Code requires 10 bicycle parking spaces for this site.

> ***Condition of Approval 6:*** The applicant shall install three (3) short-term bicycle parking spaces within 50 feet of the main entrance to the building it serves and seven (7) long-term bicycle parking spaces generally in close proximity to the main building entrance or an employee entrance. At least 50 percent of the required long-term bicycle parking (4 spaces) shall be covered. Covered parking shall be provided inside buildings, under roof overhangs, awnings, in bicycle lockers, or within or under other structures.

TRANSIT ACCESS ADJACENT TO SITE

Transit stops are located on both the east and west side of Diamond Boulevard, with the closest transit stop to the Project site directly across Diamond Boulevard and the another transit stop located on the

eastside of Diamond Boulevard near Galaxy Way. The Project currently incorporates pedestrian access to these transit stops through use of existing sidewalk and crosswalk infrastructure.

Delivery vehicle access to the Project site is located to the north of the transit stop near the Diamond Boulevard and Galaxy Way intersection. Therefore, it would not impede transit operations along Diamond Boulevard. The Site Plan depicts sufficient space to accommodate multiple delivery vehicles off-street along the southern portion of the site.

PARKING

The City Municipal Code outlines off-street parking requirements for various land uses, including Building Materials Sales and Services. For the Project site, one off-street space is required for every 400 square feet of floor area up to 10,000 square feet. Any additional floor area above 10,000 square feet shall provide one off-street space per 1,000 square feet of gross floor area. To maintain consistency, the trip generation and parking calculations are based on 49,064 square feet of floor area to include retail, office, and storage areas (in Shed 1 and 2). This equates to a total of 64 required parking stalls for the Project site. The Project is proposing to install 87 total parking stalls. However, with the inclusion of the recommendation to remove four (4) spaces on the interior of Shed 2, the total number shall be revised to be 83 total parking stalls. On-street parking directly in front of the site along Burnett Avenue may be able to accommodate approximately 14 standard passenger vehicles.

According to the 2013 California Building Code, if the total number of parking spaces provided in a parking facility falls between 76 to 100 stalls, then four (4) spaces are required to be designated as accessible parking spaces. As depicted on the Site Plan, four spaces are provided with ramp access and/or designated pathways to building entrances. Based on this review, there is sufficient ADA parking provided within the Project Site; however, one ADA stall appears to be within the employee parking area and may not be available for general use.

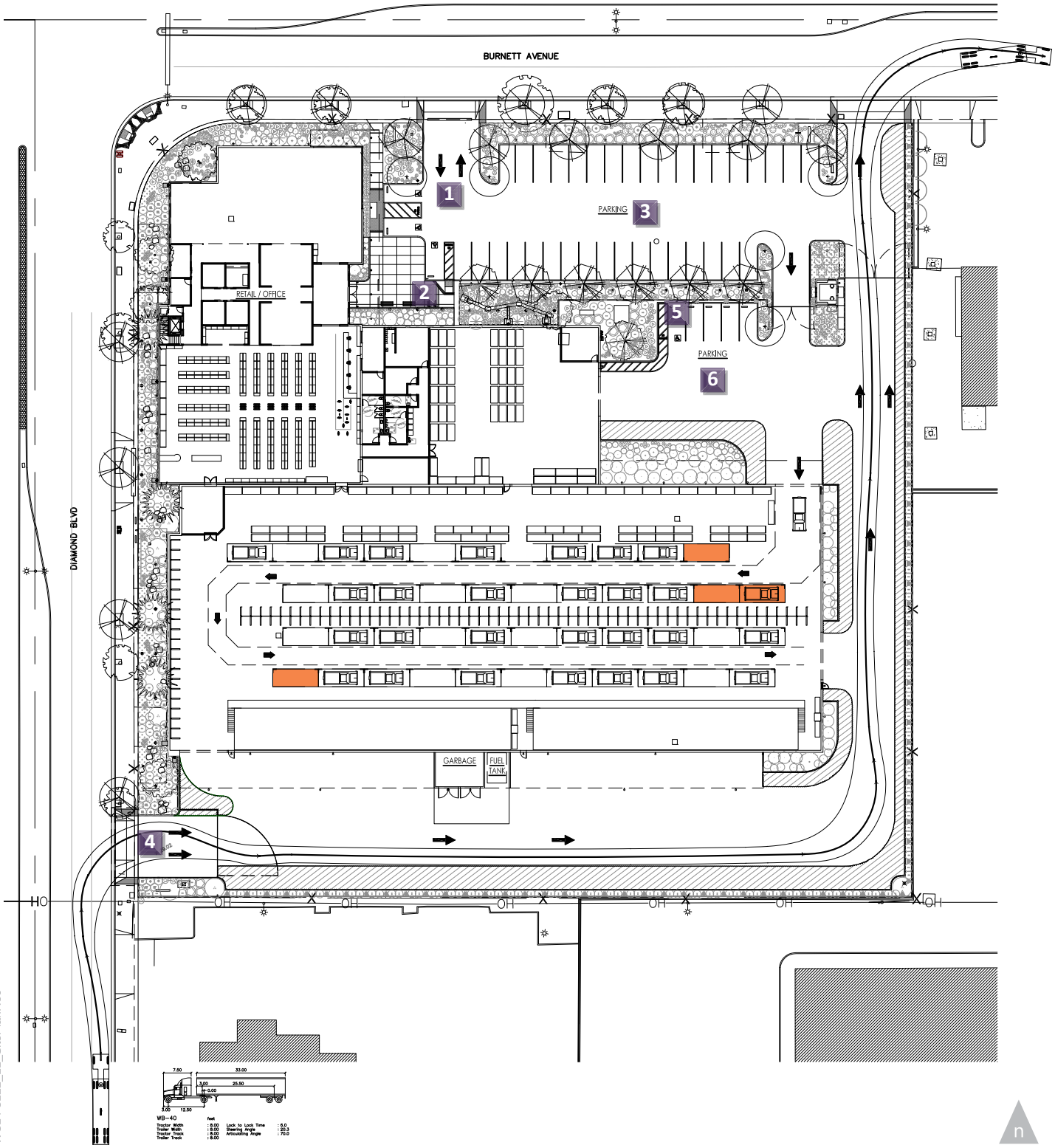
> ***Recommendation:*** Consider relocating the interior ADA-accessible parking space to the main parking area near the front entrance to the building.

A parking demand assessment was also conducted by Abrams Associates (see Appendix D). Results of their parking demand assessment indicate an expected typical peak parking demand at the Concord facility of between 41 and 56 spaces. Based on our observations of the operations of other Golden State Lumber facilities, this range of typical peak parking demand is within a range suggested by the trip generation assessment, and the proposed parking supply would provide a buffer in the case of peak sales

events. Although there is expected to be sufficient parking, it is provided in different areas of the site and available supplies may not be readily apparent to visitors. Vehicles using the five (5) parking stalls in the restricted access portion of the site may have difficulties accessing the stalls as they may need to make either a U-turn maneuver or three-point turn maneuver to access the parking area. If these are restricted for staff use only, staff would be familiar with the parking operation.

Recommendation: Develop a parking management plan to establish desired locations for employee parking that is responsive to customer parking patterns.

Recommendation: If the five (5) parking spaces near the lumber yard entry gate on the interior of the site are not primarily intended to be used by employees, consider relocating the parking stalls along the building directly to the south. This will allow for easier turning maneuvers by customers.



WC14-3122_11_SitePlanRec

LEGEND

Eliminate Parking Spaces

1 Designate as a One-way Entry only During Periods of Peak Activity

2 Install Bicycle Parking (9 spaces total)

3 Develop a Parking Management Plan

4 Create a Routing Plan for Delivery/Large Vehicles

5 Relocate ADA-accessible Space to Main Parking Area

6 Relocate Parking Stalls to Planted Area along Shed 2

Figure 11

Site Plan Review and Recommendations