APPENDIX H

TRANSPORTATION

H1:
Draft 501 Industrial Road CEQA Transportation Analysis

July 28, 2023

Mr. Steve Noack
Placeworks
2040 Bancroft Way #400
Berkeley, California 94704

501 Industrial Road CEQA Transportation Analysis

Dear Mr. Noack;

The proposed 501 Industrial Road Project would include the construction of a new 188-room hotel in San Carlos. The purpose of this letter is to summarize this project's potential transportation impacts under the guidelines of the California Environmental Quality Act (CEQA).

Project Description

The proposed business class hotel would be located at 501 Industrial Road in San Carlos. The hotel would include 149 parking spaces and approximately 119,000 square feet of hotel use which includes 188 guestrooms, a central lobby, a dining area and meeting spaces. Business class hotels are predominantly occupied by a single business traveler and experience peak occupancy during weekdays.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 11th Edition, 2021 for "Business Hotel" (ITE LU #312). The site is currently unoccupied and therefore not generating any trips. The project is not anticipated to generate any internal capture trip, pass-by trip credits or trip reductions resulting from nearby land use or transportation options.

The resulting expected trip generation potential for the proposed project is indicated in Table 1 and includes an average of 756 trips per day, with 68 trips during the a.m. peak hour and 58 during the p.m. peak hour; these new trips represent the increase in traffic associated with the project.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Business Hotel	188 rooms	4.02	756	0.36	68	27	41	0.31	58	32	26

Regulatory Setting

This section describes federal, State, regional, and local environmental laws and policies that are relevant to the CEQA review process for transportation and circulation. These policies provide a context for the impact discussion related to the proposed project's consistency with the applicable regulatory conditions.

Federal Regulations

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent federal agency created in 1973 to ensure accessibility for people with disabilities, has created

accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide for decades. These guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, public transit, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

Senate Bill 743

On September 27, 2013, Senate Bill (SB) 743 was signed into law, supporting previous climate-focused and transportation legislation, including the Sustainable Communities and Climate Protection Act of 2008 (SB 375) and the California Global Warming Solutions Act of 2006 (AB 32). SB 743 also supports implementation of the Complete Streets Act (AB 1358), which requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32 and AB 1358, SB 743 added Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

SB 743 introduced fundamental changes in the assessment of transportation impacts through the CEQA process. These changes include the elimination of auto delay (measured as Level of Service, or LOS) as a basis for determining significant transportation impacts. SB 743 included amendments that revised the definition of "infill opportunity zones" to allow cities and counties to opt out of traditional LOS standards established by congestion management programs (CMPs) and required the California Governor's Office of Planning and Research (OPR) to update the CEQA Guidelines and establish "criteria for determining the significance of transportation impacts of projects within transit priority areas." As part of the new CEQA guidelines, the new criteria "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

In December 2018, OPR released a final advisory to guide lead agencies in implementing SB 743, the "Technical Advisory on Evaluating Transportation Impacts in CEQA." Key guidance includes:

- VMT is the most appropriate metric to evaluate a project's transportation impact under CEQA.
- Tour- and trip-based travel models are recommended for estimating VMT, but local agencies have the authority to select the tools they use.
- VMT for residential and office projects are generally assessed using efficiency metrics, i.e., on a "per rate" basis. Specifically, the adopted metrics used by the City of San Carlos are VMT per service population for both residential and office projects.
- The recommended threshold of significance for residential and office projects is VMT per capita or per employee that is fifteen percent below the city or regional average (whichever is applied). In other words, an office project that generates VMT per employee that is more than 85 percent of the regional VMT per employee could result in a significant impact. This threshold is in line with statewide GHG emission reduction targets.
- For retail projects, the recommended metric is the net change in total VMT in the study area as a result of the project. It is recommended that projects resulting in a net increase in VMT be considered as having a significant impact.
- Lead agencies have the discretion to set or apply their own significance thresholds in lieu of those recommended in the advisory, provided they are based on substantial evidence.
- Cities and counties still have the ability to use metrics such as LOS for other plans, studies, or network monitoring. However, LOS and similar congestion-related metrics are no longer considered CEQA impacts.

California Complete Streets Act of 2008 (Assembly Bill 1358)

Originally passed in 2008, California's Complete Streets Act came into force in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a "complete streets" approach to mobility. "Complete streets" comprises a suite of policies and street design guidelines which provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, the elderly, and the disabled. From 2011 onward, any local jurisdiction—county or city—that undertakes a substantive update of the circulation element of its general plan must consider "complete streets" and incorporate corresponding policies and programs.

Regional Regulations

Plan Bay Area 2040

Plan Bay Area 2040 was adopted in 2017 by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). As a single plan for the nine-county San Francisco Bay Area that includes the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS), Plan Bay Area 2040 sets forth regional transportation policy and provides capital program planning for all regional, State, and Federally funded projects.

As the RTP, Plan Bay Area 2040 provides strategic investment recommendations to improve regional transportation system performance, including investments in regional highways, transit, local roadway, bicycle, and pedestrian facilities. These projects were identified through regional and local transportation planning processes. Plan Bay Area 2040 was the most current iteration of Plan Bay Area at the time when this study was initiated.

San Mateo County Comprehensive Bicycle and Pedestrian Plan

The Countywide Bicycle and Pedestrian Plan (CBPP) provides a framework to help the City/County Association of Governments of San Mateo County (C/CAG) improve walking and bicycle conditions in San Mateo County. By recommending a connected network of biking and walking facilities based on the best practices in the field, this Plan will make biking and walking safer and more comfortable for all, and improve health, accessibility, and livability throughout the county.

C/CAG is the County's Congestion Management Agency and is responsible for transportation planning, programming, and funding. This includes developing and updating the region's Congestion Management Plan and bicycle and pedestrian plans. This Plan builds on previous walking and bicycling planning efforts, including the San Mateo County Comprehensive Bicycle Route Plan (2000) and San Mateo County Comprehensive Bicycle and Pedestrian Plan (2011).

This Plan presents countywide priorities and provides project lists and program and design guidance which C/CAG and local jurisdictions can use to make roadways safer, reduce congestion, and encourage more people to walk and ride a bicycle.

Congestion Management Program

In 1990, California voters approved Propositions 111 and 108, which included a requirement that every urban county within California designate a CMA that would prepare, implement, and biennially update a CMP. In San Mateo County, C/CAG was designated as the CMA. Subsequent legislation (AB 2419) allowed existing Congestion Management Agencies to discontinue participation in the Program; however, C/CAG voted to continue to participate in and adopt a CMP.

According to the state legislation, the purpose of CMPs is to develop a procedure to alleviate or control anticipated increases in roadway congestion and to ensure that "federal, state, and local agencies join with transit districts, business, private and environmental interests to develop and implement comprehensive strategies needed to develop appropriate responses to transportation needs." The first CMP for San Mateo County was adopted by C/CAG in 1991. It has been updated and amended on a biennial basis. The last CMP update was in 2019.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the public agency tasked with regulating air pollution in the nine-county Bay Area, including San Mateo County. As a primary source of air pollution in the Bay Area region is from motor vehicles, air district regulations affect transportation planning in the project study area. The BAAQMD's goals include reducing health disparities due to air pollution, achieving, and maintaining air quality standards, and implementing exemplary regulatory programs and compliance with federal, State, and regional regulations.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including San Mateo County. It also functions as the federally mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

Local Regulations

General Plan

The City of San Carlos General Plan Circulation & Scenic Highways Element (adopted October 2009) provides a framework for development within the City. Policies and strategies that are pertinent to the transportation analysis for the proposed project are summarized below:

- Policy CSH-2.2 Continue to support operation of adequate public bus service throughout San Carlos.
- Policy CSH-2.3 Access to public transportation facilities should be convenient and designed to encourage use of public transit.
- Policy CSH-3.1 Strive to reduce baseline and development-related traffic by 20 percent through public-private partnership efforts.
- Policy CSH-3.12 The City should preserve its existing alley and pedestrian path systems to the maximum extent feasible.
- Policy CSH-3.2 Support city-wide efforts to reduce vehicular trips within and through the community.
- Policy CSH-3.3 Support the incorporation of Transportation Demand Measures in new development to reduce traffic impacts.
- Policy CSH-5.1 Connect neighborhoods, school sites, activity centers, transportation centers, recreational sites and other important community amenities with sidewalks, pedestrian paths, trails and bikeways.
- Policy CSH-6.1 Bicycling and walking facilities should be incorporated into all new development projects to the maximum extent feasible.
- Policy CSH-6.2 Support transit-oriented development with mixed, dense land use that reduces the need to travel and that is linked to good transit. The City shall work with local, regional and State representatives to encourage the support and funding of transit-oriented development projects.

Bicycle and Pedestrian Master Plan

The City of San Carlos Bicycle and Pedestrian Master Plan (adopted June 9, 2020) establishes a long-term vision for improving walking and bicycling in San Carlos and provides a strategy to develop a comprehensive bicycling and walking network that provides access to transit, schools and downtown. This document also identifies a plan to implement these projects and programs through prioritization and phasing to ensure projects are manageable and fundable.

This plan is an essential tool for guiding City staff and the development community in building a balanced transportation system where active modes are supported and accessible. The goal of the plan is to promote walking and bicycling through the creation of safe, comfortable, and connected networks, and to encourage alternatives to single-occupancy motor vehicle trips.

Transportation Significance Criteria

The City of San Carlos Transportation Significance Criteria was adopted by City Council in September 2020. This adopted resolution aligns the City's transportation analysis procedures with state goals for climate change, active transportation, as well as the guidelines described in the Governor's Office of Planning and Research (OPR) for CEQA transportation analysis.

East Side Innovation District Vision Plan

The East Side Innovation District Vision Plan (adopted October 25, 2021) presents planning strategies, goals, principles, and action items to achieve the desired characteristics for the future East Side Innovation District area. This plan is meant to be used at the very beginning stages of project development to determine how a project can be conceptualized and programmed so that a portion of the plan can be fulfilled with each act of new construction or public involvement.

CEQA Checklist

Following is a discussion and analysis of transportation related CEQA checklist items. The results are summarized in Table 2 and a discussion of each criterion follows.

Table 2 – Transportation/Traffic Checklist

Would the Project:	Potentially Significant Impact	Less than Significant Impact with Mitigation	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

Discussion of CEQA Checklist Items

a. Would the Project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

The proposed project was evaluated to determine whether it would conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bicycle racks, Class IV bikeways, etc.) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by existing transit, bicycle, or pedestrian facilities and plans.

Employees traveling to the proposed project would have the option of driving, taking transit, walking, or cycling to and from the proposed project site.

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a connected network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the project site; however, gaps in sidewalk coverage exist along East San Carlos Avenue and Holly Street. Within the *City of San Carlos Bicycle and Pedestrian Master Plan*, Industrial Road is designated as a Priority Pedestrian Route.

- **Holly Street** – Pedestrian facilities are provided on both sides of Holly Street except for the segment east of Industrial Road where sidewalks are only available on the east side. Lighting is provided on both sides via overhead streetlights.
- **Industrial Road** – Continuous sidewalks are provided on both sides of Industrial Road within the vicinity of the proposed project site. In general, Industrial Road includes adequate pedestrian facilities comprised of crosswalks, pedestrian signal phases, curb ramps, street lighting, etc.
- **East San Carlos Avenue** – Continuous sidewalks are provided only on the east side of East San Carlos Avenue between Old County Road and Industrial Road. Streetlights, crosswalks, and curb ramps are provided at intersections with Industrial Road, Bayport Avenue and Old County Road.

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2017, classifies bikeways into four categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bike lanes exist on Old County Road, Industrial Road, and Holly Street, and Class III bike routes exist on Old County Road and East San Carlos Avenue. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 3 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *City of San Carlos Bicycle and Pedestrian Master Plan, 2020*.

Table 3 – Bicycle Facility Summary

Status *Facility*	Class	Length (miles)	Begin Point	End Point
Existing				
Holly St	II	0.4	Industrial Rd	East City Limits
Industrial Rd	II	2.1	North City Limits	South City Limits
Old County Rd	II	1.0	Terminal Wy	South City Limits
E San Carlos Ave	III	0.3	Old County Rd	Industrial Rd
Old County Rd	III	1.2	North City Limits	Terminal Wy
Planned				
Holly St	I	0.2	Holly St (West of US101)	Holly St (East of US101)
El Camino Real	IV	1.9	North City Limits	South City Limits
Old County Rd	IV	1.8	South City Limits	Bragato Rd
Industrial Rd	IV	2.1	North City Limits	South City Limits
E San Carlos Ave	III	0.1	Industrial Rd	East End

Source: *City of San Carlos Bicycle and Pedestrian Master Plan*, City of San Carlos, 2020

Transit Facilities

During the 2020-2021 Coronavirus (COVID-19) Global Pandemic, transit agencies throughout the San Francisco Bay Area significantly reduced the amount of service provided. This includes the number of routes and bus stops serviced, the frequency of buses and trains, and the truncation of service hours. The addition of project-generated demand is generally expected to incrementally increase the use of transit within the study area. The additional transit trips would be spread out during the day and over several SamTrans bus lines as well as Caltrain rail service. Following is a snapshot of existing conditions, and it is noted that transit providers regularly update services in response to changing levels of transit demand.

SamTrans

The San Mateo County Transit District (SamTrans) provides fixed route bus service in San Carlos and throughout San Mateo County. Three bicycles can be carried on the bike racks which are equipped on SamTrans buses. Bike rack space is on a first come, first served basis and riders must be able to load and unload their bicycles without any help from the operator. Two additional bicycles are allowed on SamTrans buses at the discretion of the driver and depending on passenger loads.

Route 260 provides service between the College of San Mateo and the San Carlos Caltrain station. Route 260 operates Monday to Saturday with 60-minute headways between 6:10 a.m. and 7:00 p.m. on weekdays and between 8:05 a.m. and 7:55 p.m. on Saturdays. The bus stop nearest the project site is near the intersection of Holly Street and Airport Way, approximately one-half mile from the project site.

Route 397 provides service between San Francisco and Palo Alto with stops on El Camino Real in San Carlos. Route 397 operates seven days a week with 60-minute headways. The northbound route operates between 12:46 a.m. to 5:09 a.m., while the southbound route operates between 1:08 a.m. to 6:32 a.m. This route does not operate midday or in the evening. The bus stop nearest the project site is at the San Carlos Caltrain Station located approximately one-half mile from the project site.

Route 398 provides service between San Francisco and Redwood City along El Camino Real within San Carlos. Route 398 operates seven days a week with approximately 60-minute headways between 5:00 a.m. and 11:30 p.m. on weekdays, and around 6:00 a.m. and 11:00 p.m. on weekends. The bus stop nearest the project site is at the San Carlos Caltrain Station.

Route ECR provides service between Daly City BART and Palo Alto with stops on El Camino Real within the study area. Route ECR operates seven days a week with 15 to 30-minute headways between 4:00 a.m. and 1:30 a.m. on weekdays and between around 5:00 a.m. and 2:00 a.m. on weekends. The bus stop nearest the project site is at the San Carlos Caltrain Station.

Redi-Wheels and RediCoast, also known as paratransit, or door-to-door service, are available for those who are unable to independently use the transit system due to a physical or mental disability. Redi-Wheels is designed to serve the needs of individuals with disabilities within SamTrans and the greater San Carlos area. Trips must be scheduled at least one day in advance.

Caltrain

Caltrain is the commuter rail line serving the San Francisco Peninsula. It connects San Carlos with San Francisco to the north and San Jose and Gilroy to the south. On weekdays there are 56 trains servicing the San Carlos Station in the northbound and southbound directions, 15 of which provide limited-stop, express service. On weekends there are 12 trains that stop at the station in each direction on Saturdays, and 10 trains in each direction on Sundays. The San Carlos Caltrain Station is located just east of El Camino Real/San Carlos Avenue, approximately one-half mile from the project site. Both bicycle racks and lockers are provided at the San Carlos station. Bicycle racks are available on a first-come-first-served basis, while lockers must be reserved. Paid vehicle parking is available at the station for riders.

On-Demand Transportation Services

On-demand private vehicle services (e.g., taxi, Uber, Lyft, etc.) are available in the study area 24 hours a day. These vehicles can be used for trips within the study area and farther destinations, including nearby airports and major transit stations.

Finding – Pedestrian, bicycle, and transit facilities, are adequate to serve the project as proposed, based on the existing and proposed network of pedestrian, bicycle and transit facilities within the study area.

Additionally, the proposed project would not conflict with any current programs, plans, ordinances, or policies addressing the circulation system. Therefore, the proposed project would be expected to have a less-than-significant impact on local programs, plans, ordinances, and policies.

b. Would the Project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

Senate Bill (SB) 743 established the potential increase in Vehicle Miles Traveled (VMT) associated with a project as the basis for determining transportation impacts of development projects. Guidance provided by both the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory* (2018) and the City of San Carlos' *Transportation Significance Criteria Implementing Vehicle Miles Traveled* (2020) were used. Neither publication specifically addresses hotel land uses, indicating that a VMT assessment on a case-by-case basis is allowed.

According to the walkshed map that is part of the City's Transportation Significance Criteria, this project site is located within the half-mile walkshed of High-Quality Transit Stops which includes both the El Camino Real transit corridor and the San Carlos Caltrain Station.

For land uses not addressed in the OPR Technical Advisory, it is common practice to consider whether the land use of interest has travel characteristics that are similar to the residential, employment-based, or retail land use types that are addressed in the OPR Technical Advisory. If so, similar VMT assessment methodologies can often be used. Hotels and other visitor-focused uses require consideration of the project's intended customer base and where those customers would otherwise have stayed if the project were not constructed. Unless a hotel project also includes construction of a major new attraction or convention component, on its own it is unlikely to draw new visitors to the City; instead, it will just redistribute where visitors choose to stay. This shift in travel patterns and VMT is similar to how OPR considers retail uses, in which many types of retail projects may generally be presumed to have a less-than-significant VMT impact since the total amount of shopping that occurs in a given geographic area tends to remain unchanged, and, in fact, adding new retail uses to the urban fabric often reduces the distances (i.e., the "miles" in VMT) that people need to drive on shopping trips. The City of San Jose has chosen to apply this methodology of treating hotel uses similar to retail, where small- to mid-sized hotels can be expected to shift travel patterns rather than generate new VMT and can generally be presumed to have a less-than-significant transportation-related VMT impact.

The OPR *Technical Advisory* indicates that retail development over 50,000 square feet is typically regional serving and subject to quantitative VMT analysis. Retail development under 50,000 square feet can generally be considered local-serving and screened from further VMT analysis per the *Technical Advisory*. The City of San Carlos has established a more stringent threshold which states that retail projects consisting of up to 15,000 square feet can be classified as being local and therefore can be presumed to have a less-than-significant VMT impact.

Based on formulas contained in the ITE *Trip Generation Manual*, a 15,000 square foot retail development would be expected to generate 817 daily vehicle trips. A retail project, or project exhibiting travel characteristics similar to retail such as a hotel, could therefore be considered to have a less-than-significant VMT impact if it generates fewer than this number of vehicle trips per day.

As discussed previously, this project would include construction of a new hotel which is expected to generate approximately 756 daily vehicle trips. Because the project would generate fewer vehicle trips than would be generated by 15,000 square feet of retail, it would be exempt from further VMT analysis and may be presumed to have a less-than-significant VMT impact.

The addition of a new hotel in San Carlos would not directly increase the total amount of guest lodging demand in the region but would shift where some guests in the city choose to stay. The total vehicle miles traveled by visitors in the city would be unlikely to change, and in fact could reduce slightly if future guests are comprised of people who were already intending to visit San Carlos and would otherwise have stayed in neighboring cities, such as Belmont or Redwood City. This effect would be most apparent for hotel guests intending to visit one of the organizations within the East Side Innovation District, which is comprised of multiple companies totaling over 2 million square feet of office and research space and located within one mile of the proposed hotel. By adding hotel rooms for business travelers within the East Side Innovation District, the vehicle trip lengths generated by visitors would be reduced when compared to visitors who otherwise would have stayed farther away.

Finding – The project is expected to generate fewer trips than the 817 daily trip threshold associated with the local-serving retail screening criterion, and may therefore be presumed to have a less-than-significant VMT impact.

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

Site Access

Pedestrian access to the project site would be provided via a series of pedestrian pathways located between the hotel building and Industrial Road. This network of pathways would provide access between the Industrial Road sidewalk and the hotel building.

Sole vehicular access to the project site would be provided via an existing full-access driveway on Industrial Road located approximately 280 feet south of Holly Street. The project's driveway and internal roadway would be designed to current City standards and so can be expected to accommodate the access requirements for both emergency and passenger vehicles.

Sight Distance

At driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting to enter the street and the driver of an approaching vehicle. Sight distances along Industrial Road at the project driveway were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for driveway approaches are based on stopping sight distance and use the approach travel speed as the basis for determining the recommended sight distance. The posted speed limit for Industrial Road is 35 mph. Based on this speed limit, the minimum stopping sight distance required along Industrial Road is 250 feet. This road is relatively flat and straight with favorable sight lines along the project frontage. A field review determined that sight distances at the proposed project driveway location would extend up to 350 feet to both the north and south along Industrial Road. Therefore, the sight distance for motorists exiting the project driveway is adequate since the available sight distance is greater than the 250 feet required.

For a motorist traveling along southbound Industrial Road intending to turn left into a project driveway, the stopping sight distance looking south along Industrial Road also extends up to 350 feet, which exceeds the required 250 feet and is more than adequate for the posted speed limit of 35 mph.

Finding – The project must be designed to meet applicable Federal, State and City codes and regulations, and as a result would not introduce any new hazards in terms of its design. Adequate sight lines would be provided at the proposed project access point. All roadway modifications proposed by the project should be designed and constructed to meet current City standards and therefore would have no impact in terms of potentially increasing hazards related to design features. The proposed project would not increase hazards due to geometric design features and would have a less-than-significant impact regarding geometric design features or incompatible uses

d. Would the Project result in inadequate emergency access?

Emergency Access

Emergency response vehicles would be able to access the site via the project driveway on Industrial Road since the driveway and internal roadways would be designed and constructed to current City standards to accommodate both passenger and emergency vehicles as illustrated on the enclosed Fire Truck Turning Template sheet. Since all roadway users must yield the right-of-way to emergency vehicles when using their sirens and lights, the added project-generated traffic would not impact access for emergency vehicles.

Finding – The project would result in a less-than-significant impact regarding adequacy of emergency access since all driveways and internal roadways would be designed to accommodate emergency vehicles and all roadway users must yield to emergency vehicles when using their lights and sirens.

Thank you for giving W-Trans the opportunity to provide these services. Please call if you have any questions.

Sincerely,

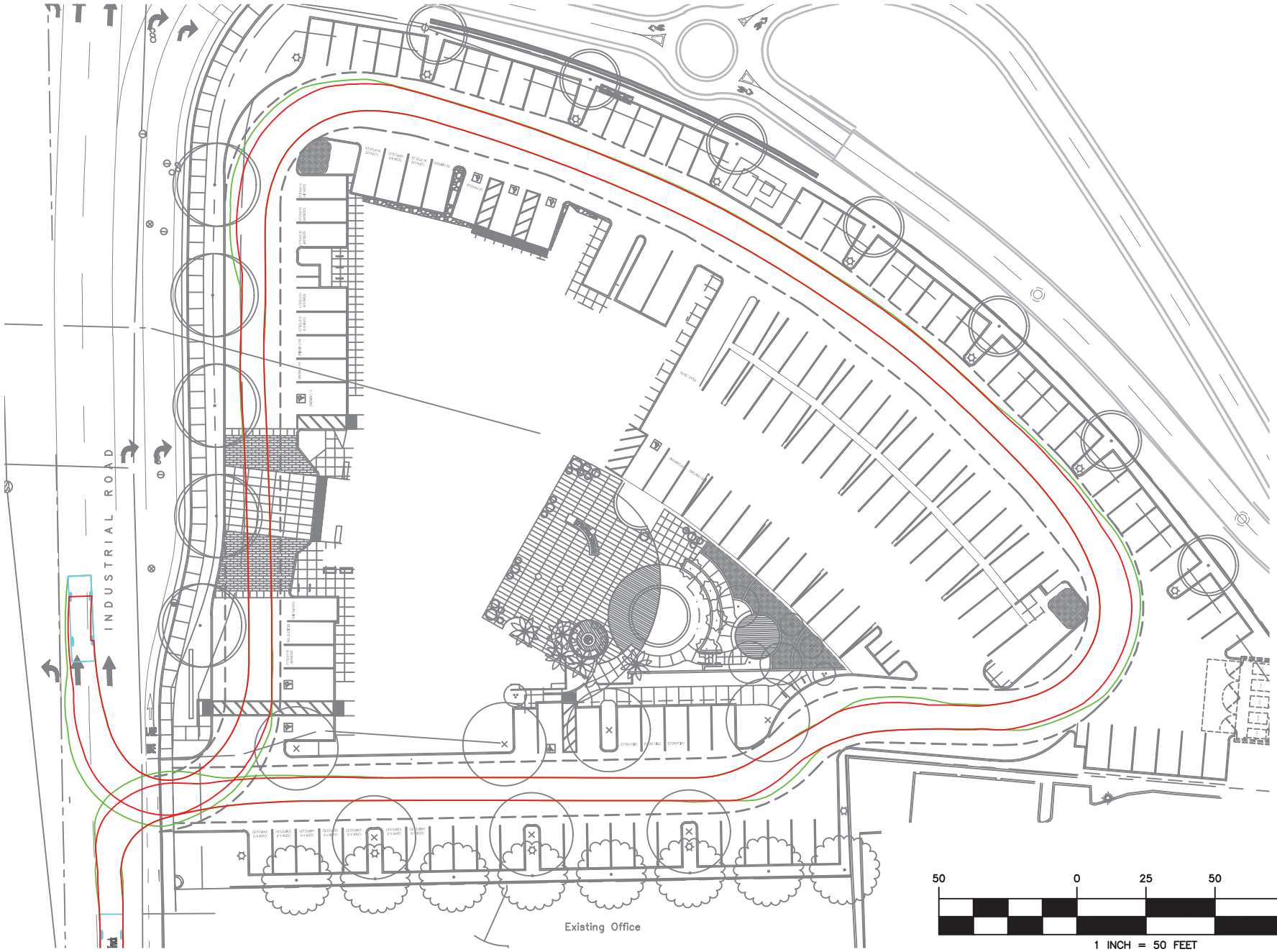
Kenneth Jeong, PE
Senior Engineer

Mark Spencer, PE
Senior Principal

REGISTERED PROFESSIONAL ENGINEER
MARK E. SPENCER
TR001737
TRAFFIC
STATE OF CALIFORNIA

MES/kbj/SCA024.L1

Enclosures: Fire Truck Turning Template Sheet



DRAWN T. CHANG	SCALE 1" = 50'	HEXAGON TRANSPORTATION CONSULTANTS, INC. 4 North Second Street, Suite 400 San Jose, California 95113 Ph: (408) 971-6100 www.hextrans.com	**CITY OF SAN CARLOS**	FIGURE NO.
CHECKED K. KUO	DATE 5/17/2021		INDIGO HOTEL 501 INDUSTRIAL ROAD FIRE TRUCK TURNING TEMPLATE	1

H2: Transportation Demand Management (TDM) Plan

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Indigo Hotel At 501 Industrial Road

Transportation Demand Management (TDM) Plan

Prepared for:

City of San Carlos on Behalf of Holly Hotel Group, LLC

September 26, 2022

Hexagon Transportation Consultants, Inc.
Hexagon Office: 100 Century Center Ct, Suite 501
San Jose, CA 95112
Phone: 408.971.6100
Hexagon Job Number: 21KK03
Document Name: Indigo Hotel TDM Plan.docx

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1. Introduction

This Transportation Demand Management (TDM) plan has been prepared for the proposed Indigo Hotel located at 501 Industrial Road in San Carlos, California. TDM is a combination of services, incentives, facilities, and actions that reduce single-occupant vehicle (SOV) trips to help relieve traffic congestion, parking demand, and air pollution problems. This plan was developed in accordance with Chapter 18.25 (Transportation Demand Management) of the City of San Carlos municipal code, which requires all new non-residential developments of 10,000 square feet or more to implement a TDM plan. The purpose of the TDM plan is to (1) reduce the amount of traffic generated by the change of land use at the existing development; (2) promote the more efficient utilization of existing transportation facilities and ensure that new developments are designed in ways to maximize the potential for alternative transportation usage; and (3) establish an ongoing monitoring and enforcement program to ensure that the City's desired alternative mode use percentages are achieved.

According to Section 18.20.05 of the City of San Carlos municipal code, the number of required parking spaces may be reduced by 20 percent with an approved TDM plan implemented according to Chapter 18.25 of the City municipal code. Because the project proposes to provide on-site parking spaces 22 percent fewer than the required parking spaces, this TDM plan has been prepared in support of the project's need for a 22 percent parking reduction.

Project Description

The project is located at the southeast corner of Industrial Road and Holly Street at 501 Industrial Road in San Carlos, California (see Figure 1). The project proposes to develop the site with 188 hotel rooms and 148 surface parking spaces. Vehicle access to the site would be provided via a new driveway on Industrial Road, near the existing driveway (see Figure 2).

Based on Section 18.20.040 of the City municipal code, the project is required to provide 190 parking spaces. The project proposes to provide 148 parking spaces, including 141 vehicle spaces and 7 motorcycle parking spaces, which is a 22 percent reduction in required parking spaces. The proposed parking spaces would include mechanical lifts to be operated by the hotel valet. Per 18.20.050 (C) of the City municipal code, motorcycle parking may substitute for up to five percent of the required automobile parking spaces. The number of motorcycle parking spaces is equal to 4.7 percent of the required automobile parking spaces, which meets the City's requirement.

The surface parking lot would include bike racks in various locations around the building that can hold up to 20 bicycles. A storage room for long-term bicycle parking with spaces for 12 bicycles would be located inside the building. On-site amenities would include a fitness room, bar/lounge/dining area, and meeting rooms.

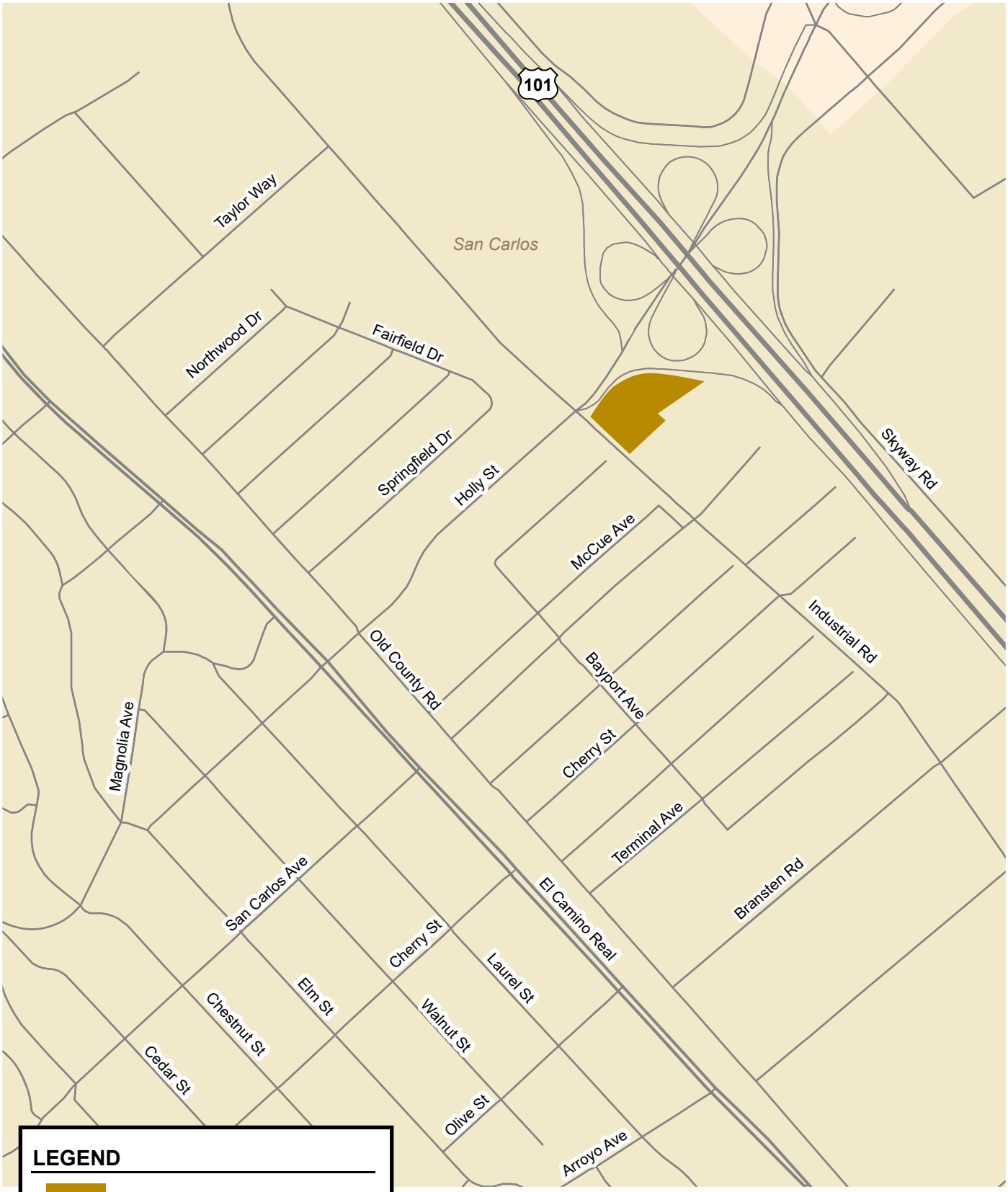


Figure 1
Site Location and Surrounding Area

Figure 2
Site Plan

NORTH
Not to Scale

TDM Trip Reduction Target

Per Section 18.25.030 of the City's municipal code, each project should incorporate measures to meet vehicle trip generation rates that are twenty percent (20%) lower than the standard rates as established in the most recent edition of the ITE *Trip Generation Manual*. This plan has been prepared with the goal of achieving at least a 22 percent reduction in project trips.

An evaluation of the project's trip generation was conducted for the daily, weekday AM, and weekday PM peak hours. The trip generation rates used for the analysis are published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual, 10th Edition* (see Table 1). The project is estimated to generate a total of 955 daily trips, including 105 AM and 85 PM peak hour trips. With the TDM plan, the project should aim to generate a maximum of 745 daily trips, including 82 AM and 66 PM peak-hour trips.

Table 1
Trip Generation Estimates

		Daily		AM Peak Hour				PM Peak Hour			
Land Use	**Size**	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Hotel[1]	188 rooms	5.08	955	0.56	56	49	105	0.45	47	38	85
22% TDM Trip Reduction			(210)		(12)	(11)	(23)		(10)	(9)	(19)
Total Project Trips			**745**		**44**	**38**	**82**		**37**	**29**	**66**

[1] Trip generation based on average rates in the ITE *Trip Generation Manual, 10th Edition*, for Business Hotel (Land Use 312). Rates are expressed in trips per occupied room.

2. Transportation Facilities and Services

Transportation facilities and services that support sustainable modes of transportation include commuter rail, buses and shuttle buses, high-occupancy vehicle (HOV) lanes, bicycle facilities, and pedestrian facilities. This chapter describes existing facilities and services near the project site that would support the TDM measures contained in this plan. Information on nearby roadways is also included in order to provide a more comprehensive description of the nearby transportation network.

Roadway Network

Regional access to the project site is provided via US 101. Local access to the site is provided via El Camino Real (SR 82), Old Country Road, Industrial Road, and Holly Street. These roadways are described below. Although all streets in the study area run at a diagonal compared to the ordinal directions, for the purposes of this study, US 101 and all parallel streets are considered to run north-south, and cross streets are considered to run east-west.

US 101 is a north/south, eight-lane freeway in the vicinity of the site. US 101 extends northward through San Francisco and southward through San Jose. Access to and from the project study area is provided via a full interchange at Holly Street

El Camino Real (SR 82) is a six-lane major arterial that is oriented in a north-south direction between San Francisco and San Jose. In the vicinity of the project, El Camino Real has a landscaped median with left-turn pockets at intersections. There is a posted speed limit of 35 miles per hour(mph) and there are sidewalks on both sides of the street. On-street parking is permitted along the west side of the street between Oak Street and Bush Street.

Old Country Road is a two-lane collector street that extends from Sterling View Avenue in the north to Bing Street in the south. In the vicinity of the project, Old Country Road has a posted speed limit of 30 mph and sidewalks on both sides of the street between Holly Street and Montgomery Street. North of Holly Street and south of Montgomery Street, Old Country Road only has sidewalks on the east side of the street. Bike routes exist along both sides of the street north of Terminal Way, with a short segment of a bike lane on the east side of the street between Holly Street and Springfield Drive. Bike lanes exist south of Terminal Way. On-street parking is not allowed on the street north of San Carlos Avenue.

Industrial Road is a four-lane north/south arterial between Harbor Boulevard in the north and Whipple Avenue in the south, where it transitions into Winslow Street. The posted speed limit in the project area is 35 mph. Sidewalks are present along both sides of the street. Bike lanes exist along both sides of the street for the entire length. On-street parking is mostly prohibited on both sides of the street. There are small pockets of parking allowed along the west side of the street. Industrial Road provides direct access to the project site.

Holly Street is a four-lane east/west local road that transitions from Redwood Shores Parkway in the east and continues to Elm Street in the west. The posted speed limit is 25 mph west of Industrial Road. East of Industrial Road, the posted speed limit is 35 mph. Sidewalks are present along both sides of the street. Bike lanes exist on both sides of the street, east of Industrial Road. On-street parking is prohibited on both sides of the street. Access to the project site is provided via its intersection with Industrial Road.

Bicycle Facilities

The bicycle facilities that exist within the vicinity of the project site (see Figure 3) include striped bike lanes (Class II bikeway) and signed bike routes (Class III bikeway). Bike lanes are striped preferential lanes on the roadway for one-way bicycle travel. Some bicycle lanes include a striped buffer on one or both sides to increase separation from the traffic lane or from parked cars. Bike routes are typically designated only with signage or with painted shared lane markings (sharrows) on a road that indicate to motorists that bicyclists may use the full travel lane. Bike boulevards are bike routes on streets that prioritize through trips for bicyclists.

Existing bike lanes are located on:

- East side of Old Country Road, between Springfield Drive and Holly Street,
- Old Country Road, south of Terminal Way
- Industrial Road, except for a short segment at the Holly Street intersection
- Holly Street, east of Industrial Road
- San Carlos Avenue, west of Elm Street

Existing bike routes/boulevards are marked on:

- Old Country Road, north of Terminal Way, except for a small segment on the east side between Springfield Drive and Holly Street
- Industrial Road, near the Holly Street intersection
- San Carlos Avenue, west of Industrial Road. San Carlos Avenue between Old country Road and Industrial Road is a bike boulevard.
- Arroyo Avenue, west of El Camino Real

As shown in Figure 3, the project site is well situated for bicycle access to downtown San Carlos and Caltrain. San Carlos Avenue is discontinuous at the Caltrain Station, but there is an underpass available for bicycle and pedestrian users to cross under the tracks to reach San Carlos Avenue west of the station. The bike lanes on Industrial Road and the San Carlos Avenue bicycle boulevard connect the project site with the San Carlos Caltrain station and the downtown area.

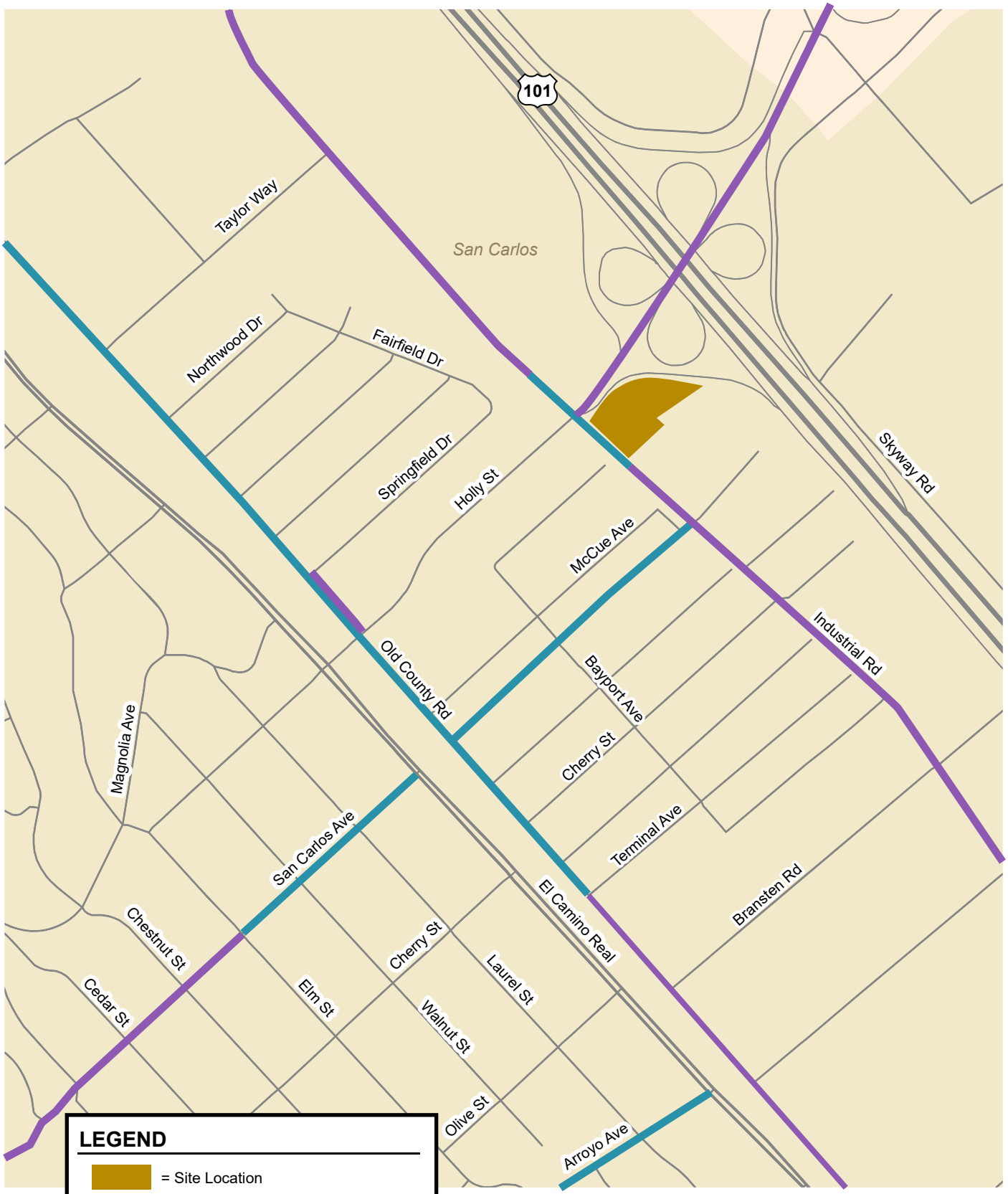


Figure 3
Existing Bicycle Facilities

Pedestrian Facilities

The pedestrian facilities in the study area include sidewalks along the majority of the streets and striped crosswalks at major intersections. Sidewalks are present along both sides of Industrial Road and Holly Street and along the south side of San Carlos Avenue between Industrial Road and Old County Road. Crosswalks and pedestrian walk signals are provided at the signalized intersections of Industrial Road/Holly Street, Industrial Road/San Carlos Avenue, and Old County Road/Holly Street. Crosswalks are also present at unsignalized intersections along E. San Carlos Avenue. Therefore, continuous pedestrian facilities are present from the site to the Caltrain Station and downtown San Carlos via Industrial Road and E. San Carlos Avenue.

Transit Services

Existing transit service to the study area is provided by the San Mateo County Transit District (SamTrans) and Caltrain (see Figure 4). The San Carlos Caltrain Station is located approximately 0.45 mile west of the project site, which is a reasonable walking distance. SamTrans buses stop at the Caltrain Station on El Camino Real. The transit service routes that run through the study area are listed in Table 2, including their route description and commute hour headways.

Caltrain Commuter Rail

Caltrain provides commuter rail service between San Francisco and San Jose, with limited service to Gilroy during commute hours. The San Carlos Station is served by local-stop, limited-stop, and baby bullet trains. The station has bike racks, bike lockers, and a surface parking lot.

During the morning peak period between 6:00 and 9:30 AM, the San Carlos station is served by 3 limited-stop northbound trains with headways of 60 minutes and 3 limited-stop southbound trains with headways of 60 minutes. During the PM peak period between 3:30 and 7:30 PM, the station is served by 4 limited stop northbound trains with headways of 60 minutes and 4 limited stop southbound trains with headways of 60 minutes.

As part of the Caltrain Modernization Program, the rail service will be electrified. With the electrification of service, Caltrain will be able to provide faster and more frequent service along the corridor, including at the San Carlos Station.

SamTrans Bus Service

Existing bus service to the study area is provided by SamTrans. SamTrans provides bus service within the City of San Carlos and throughout San Mateo County. The closest bus stops are located near the El Camino Real/San Carlos Avenue intersection, approximately 0.47 mile from the proejct site, serving routes ECR, 260, 295, 397, and 398. Access between this bus stop and the project site is provided via sidewalks located along Industrial Road and San Carlos

Avenue and an underpass at the Caltrain Station. The existing SamTrans service in the project vicinity is described in Table 2 and shown on Figure 4.

Table 2
Existing Transit Services

Route	Route Description	Weekday Hours of Operation	Headways[1] (minutes)	Nearby Bus Stops	Walking Distance from Nearest Stop to Project Site (mile)
Route ECR	Palo Alto Transit Center - Daly City Bart	24 hours	15	El Camino Real/San Carlos Avenue	0.47
Route 260	San Carlos Caltrain Station - College of San Mateo	6:10 AM - 7:00 PM	60	El Camino Real/San Carlos Avenue	0.47
Route 295	Redwood City Transit Center - San Mateo Caltrain Station	6:20 AM - 6:45 PM	120	El Camino Real/San Carlos Avenue	0.47
Route 397	Palo Alto Transit Center - Drumm/Clay	12:45 AM - 6:30 AM	-- [2]	El Camino Real/San Carlos Avenue	0.47
Route 398	Redwood City Transit Center - Drumm/Clay	5:10 AM - 11:30 PM	60	El Camino Real/San Carlos Avenue	0.47

Notes:
Based on transit services as of January 2021.
1. Headways during weekday peak periods in the project area.
2. Route 397 does not operate during the peak periods.

Figure 4
Existing Transit Services

3. Proposed TDM Measures

This chapter describes Transportation Demand Management (TDM) measures that are proposed for the hotel. The TDM measures include planning and design measures related to the attributes of site location, the site design, and on-site amenities and trip reduction programs. The trip reduction programs, including services, incentives, and actions, would encourage employees and hotel guests to commute to work using alternatives to single-occupant vehicles. The TDM measures were developed according to the guidelines listed in Section 18.25.040 of the City municipal code. Some of the TDM measures are programs that will be created and implemented by the hotel owner.

Proposed TDM Measures

As required by the San Carlos municipal code (Section 18.25.050.A), Table 3 presents the TDM Plan Checklist, which is a summary of the TDM measures proposed in this Plan and whether each measure will be applied to guests, employees, or both.

Passenger Loading Zones

The site plan shows that a passenger loading zone will be provided near the entrance of the lobby, which would allow convenient passenger drop-off and pickup for employees and guests using on-demand transportation services such as Lyft and Uber. These services, known as Transportation Network Companies (TNCs), provide another transportation option available for guests and employees who choose not to drive. While trips made by on-demand ride services do not eliminate a vehicle trip, the availability of such services may help to dissuade guests from renting a car or employees from owning a car. Similar to the guaranteed ride home program offered by some employers, employees are more likely to use transit, walk, or bike as their primary mode of travel if they are assured that they can get a ride when needed.

Direct Route to Transit and Downtown

The project is located approximately 0.45 mile from the San Carlos Caltrain Station and numerous bus routes. At a normal walking pace, it would take approximately 9 minutes to walk from the project site to the Station. There are crosswalks and sidewalks along Industrial Road and San Carlos Avenue to provide pedestrians with a safe route between the hotel and transit services.

The project is also located approximately 0.47 mile from downtown San Carlos via Industrial Road, San Carlos Avenue, and an underpass at the Caltrain Station. The short easy walking distance to downtown encourages hotel guests to walk to the nearby restaurants.

Table 3
TDM Plan Checklist

TDM Program	Applies to Guests, Employees or both	X = Included in the Proposed Project's TDM Plan
Trip Reduction Measures from San Carlos Municpal Code (Section 18.25.040)		
A . Passenger Loading Zones	Both	X
B . Direct Route to Transit	Both	X
C . Pedestrian Connections	Both	X
D . Bicycle Connections	Both	X
E . Land Dedication for Transit/Bus Shelter		
F . Long-Term Bicycle Parking	Both	X
G . Short-Term Bicycle Parking	Both	X
H . Free Preferential Carpool and Vanpool Parking	Employees	X
I . Showers/Clothes Lockers	Employees	X
J . Transportation Management Association (TMA)		
K . Paid Parking at Prevalent Market Rates		
L . Alternative Commute Subsidies/Parking Cash Out	Employees	X
M . Carpool and Vanpool Ride-Matching Services	Employees	X
N . Guaranteed Ride Home	Employees	X
O . Shuttle Program		
P . Information Board/Kiosks	Both	X
Q . Promotion Programs	Both	X
R . Compressed Work Week		
S . Flextime		
T . On-Site Amenities		
U . Telecommuting		
V . Other Measures	Both	X

Pedestrian Connections

The project will provide new sidewalks landscaped with street trees along the project's frontage on Industrial Road. The building entrance will face Industrial Road with a short walkway between the building and sidewalk. The drive aisle in front of the building entrance will be textured to reduce the vehicle travel speed. The proposed project design would provide safe, convenient pedestrian connections from the project to surrounding public streets.

Bicycle Amenities

Bicycle Connections

Bicycle lanes exist along Industrial Road, along the project frontage. Bicyclists would enter the project site via the project's driveway and would find nearby short-term or long-term parking in various locations surrounding the site. There will be short-term racks located near the building entrance facing Industrial Road.

Bicycle Parking

A total of 20 short-term bicycle spaces will be provided at convenient and well-lit locations near the building entrance, project driveway, and courtyard. In addition, a total of 12 long-term bicycle spaces will be provided in one secured bike storage room in the northwest section inside the building.

Showers, Changing Rooms, and Lockers

The hotel will provide shower stalls, changing rooms, and lockers for employees to use after biking or walking to the hotel. Having the option to shower and change clothes in the building encourages

employees to bike or walk to work. Employees who ride their bike a considerable distance to the Caltrain station nearest to their home may also take advantage of these facilities.

Alternative Commute Subsides

Alternative commute subsides promote sustainable modes of transportation. These programs will be implemented by the hotel operator for employees. The hotel will implement the following programs and services that promote sustainable modes of transportation:

- **Free Transit Tickets.** The Commute.org (formerly the Peninsula Traffic Congestion Relief Alliance) Try Transit Program provides free transit tickets to people who are interested in trying public transit to get to work. The Try Transit program provides either one $9 BART ticket, three round-trip Caltrain tickets, six one-way SamTrans tickets or three round-trip VTA tickets per household. Commuters requesting tickets must work, live, or drive through San Mateo County.
- **Transit Subsidy.** The project will offer public transit passes or subsidies to employees equivalent to 30 percent of the value of their monthly fare or $50 monthly to incentivize transit use.
- **Subsidies for Carpooling or Biking to Work.** As a potential measure if the project does not meet the trip reduction target, the project will provide subsidies to employees who use carpool or bike to work.

Carpool and Vanpool Programs

Carpool and vanpool programs will apply to employees of the hotel.

On-Site Ride Matching Assistance

One of the greatest impediments to carpool and vanpool formation can be finding suitable riders with similar work schedules, origins, and destinations. Facilitated rideshare matching can overcome this obstacle by enabling commuters who are interested in ridesharing to enter their travel preferences into a database and receive a list of potential rideshare partners. The success of these programs is largely determined by the number of participants and, in turn, the number of potential matches that can be made.

The Transportation Coordinator will distribute a carpool matching application to all employees as part of the welcome packets. The application will match employees who live in the same area who may be able to carpool or vanpool together. Some employees who may be reluctant to reach out to find carpool partners via the 511 RideMatch service or Waze Carpool may be more likely to fill out a form that will be administered by their Transportation Coordinator. Furthermore, employees may be more likely to try ridesharing with a coworker than with an unknown person who lives nearby.

Preferential Parking for Carpools and Vanpools

Preferential parking spaces for carpools and vanpools in “prime” locations provide a prominent visual message to employees that alternative transportation and efforts to reduce trips are valued. The project will designate 16 spaces for use by carpools, vanpools, and clean air or electric vehicles. The site plan shows that all of these spaces are located near the entrances of the building.

Ride Matching Resources

511 RideMatch

The 511 RideMatch service provides an interactive, on-demand system that helps commuters find carpools, vanpools, or bicycle partners. The Transportation Coordinator in conjunction with the future building manager contacts, will promote the on-line 511 service to employees. This free car and

vanpool ride matching service helps commuters find others with similar routes and travel patterns with whom they may share a ride. Registered users are provided with a list of other commuters near their employment or residential ZIP code along with the closest cross street, email, phone number, and hours they are available to commute to and from work. Participants are then able to select and contact others with whom they wish to commute. The service also provides a list of existing car and vanpools in their residential area that may have vacancies.

Scoop

Scoop offers a fee-based ride matching service through an easy-to-use app. Scoop allows commuters to separate their AM and PM trips, to help accommodate unpredictable work schedules. Scoop also lets users schedule a trip as a driver or passenger, depending on their daily needs. Scoop identifies carpoolers who are heading the same direction and finds the most efficient carpool trip based on fastest route, nearby carpoolers, carpool lanes, and other factors. Payment for each trip is made through the app.

Ride matching service is also available through a number of peer-to-peer matching programs, which as Waze Carpool, which utilize social networks to match commuters.

Carpool/Vanpool Incentives

Scoop Discounts for San Mateo County Carpools

San Mateo City/County Association of Governments (C/CAG) has developed the “Carpool in San Mateo County!” program, which provides a $2 incentive per person for each trip that begins or ends in San Mateo County. Drivers and riders can earn up to $4 per day when using the Scoop app to carpool. Drivers and riders using Scoop will automatically receive the $2 incentive per person during commute periods (5:30 a.m. – 10:00 a.m. and 3:30 p.m. – 8:00 p.m.), with a maximum of $4 per rider and driver each day.

Vanpool Participant Rebates

The Peninsula Traffic Congestion Relief Alliance also offers an incentive to commuters to try vanpooling. The Alliance will pay half of the cost of a new vanpool participant’s seat, up to $100 per month, for the first three months in the van. New vanpools that operate for at least six months can receive a one-time rebate of $500, paid to the vanpool driver (rotating drivers may share the bonus).

511 Carpool/Vanpool Incentives

511.org offers several incentive programs for carpool/vanpool commuters. Most of these programs are designed to reward someone for forming or trying a carpool or vanpool and provide an award or subsidy after the first three or six months of use.

The Star Store

The Peninsula Traffic Congestion Relief Alliance has established a program called the Star Store. Commuters who travel to, from, or through San Mateo County can earn points by logging their commutes in the STAR platform. Every day that someone commutes by an alternative to driving alone, they earn a point. Users collect points and then redeem them for rewards.

Guaranteed Ride Home

Hotel employees are more likely to use using alternative modes of transportation if they are assured that they can get a ride in the event of illness, family emergency, or unexpected overtime. The project will reimburse an emergency ride to employees using transit, carpool/vanpool, biking/walking as their commute mode.

TDM Administration and Promotion

Transportation Coordinator

A Transportation Coordinator will be assigned to provide information regarding alternative modes of transportation to hotel guests and employees of the project. The Transportation Coordinator will be designated by the hotel or any subsequent building owner.

The Transportation Coordinator's responsibilities will include updating information on the online information board/kiosk, providing trip planning assistance and/or ride-matching assistance to guests and employees who are considering an alternative mode for their commute, and managing the annual surveys. The Transportation Coordinator will be able to answer guests' and employees' TDM program-related questions.

New Employee Orientation (Welcome) Packets

New employees will be provided transportation information packets. This packet will include information about transit maps/schedules (Caltrain and SamTrans), locations of bus stops, bike maps, ride matching services, transit planning resources, and bicycle parking on-site. Also included in the packet will be information regarding how to contact the Transportation Coordinator assigned to the hotel.

Promotional Programs

The Transportation Coordinator will undertake additional marketing activities to encourage guests and employees to try alternative travel modes. Additional promotional activities might include email blasts of flyers, brochures or other materials on commute alternatives, ridesharing incentive programs, and transit benefits for employees and alternative modes of transportation for guests prior to arriving at the hotel. SamTrans.com and 511.org contain information that may be useful for marketing programs.

Online Transportation Kiosk

This TDM Plan recommends establishing an "online kiosk" with transportation information that guests and employees could access from their smart phones, the hotel, or anywhere else. This online kiosk can be available on the hotel website.

By allowing someone to have all the information about transportation alternatives and TDM programs available to them in a single online location, people will be more likely to refer to this information from home prior to arriving at the hotel. This website will include the site-specific information about all the measures, services, and facilities discussed in this plan. In addition, this online information center will include:

- A summary of Caltrain, SamTrans, and nearby shuttle services and links to further information about their routes and schedules.
- Information about ride matching services (511.org and on-site ride matching) and the incentive programs available to carpools and vanpools.
- A local bikeways map and bicycling resources on 511.org, such as regional bike and trail maps, access on transit and bridges, location and use of bike parking at transit stations, access on transit and bridges, bicycle safety tips, and maintenance tips.
- A link to the many other resources available in the Bay Area, such as Dadnab, the 511 Carpool Calculator, the 511 Transit Trip Planner, real-time traffic conditions, etc.
- A list of shops and restaurants in downtown San Carlos where hotel guest can walk to.

Other Measures

Dining and Bar

The hotel will include a restaurant and bar for guests to utilize during their stay. Access to the dining services and bar will allow guests to socialize from the hotel and therefore reduce the need for a vehicle.

Meeting Rooms and Fitness Center

The project will include a board room on the first floor and two meeting rooms and a fitness room on the second floor. These amenities will encourage guests to stay on site during the workday, reducing the number of trips that are required to be made, and thus, reducing the need for a vehicle and parking.

Reduced Parking Supply

The project would reduce the parking supply by 22 percent. According to the City/County Association of Governments' (C/CAG) new TDM Policy, a 10 percent trip reduction credit may be issued if applicant provides off-street private parking at least 10 percent below local zoning code required minimums.

Effectiveness of the TDM Measures

The effectiveness of the TDM plan in reducing vehicle trips was measured using C/CAG TDM Checklist for large lodging projects, included the C/CAG's Draft TDM Policy Update Approach updated September 1, 2021. C/CAG provides a list of potential TDM measures for large lodging projects, some of which are required and some of which are optional. Each measure has an associated reduction percentage. As shown in Table 4, the project will achieve the reduction goal of 22 percent with the proposed TDM measures.

C/CAG TDM Requirement

C/CAG has established trip reduction requirements for new development within the county. C/CAG separates new developments into small projects and large projects. Non-residential projects (office, R&D, industrial, institutional, medical, and lodging) larger than 50,000 square feet (generating more than 500 average daily trips) are considered large projects. The proposed project is located within 0.5 miles of the San Carlos Caltrain Station. Therefore, the project qualifies as a transit-oriented development (TOD), which is defined as a project within 0.5 miles of a transit station serving "high-quality transit" service. The recommended vehicle trip reduction target for large non-residential projects that are transit oriented developments (TOD) is 25 percent. As shown in Table 4, the project will achieve the reduction goal of 25 percent with the TDM measures included in this plan.

Table 4
Summary of C/CAG Estimated Trip Reduction Percentage

Cateogry	Measure	Provided by Project (Y/N)	Estimated Trip Reduction Percentage
Required TDM Measures for Large Non-Residential (Medical and Lodging) TOD Projects			
TDM Management and Admin	TDM Coordinator/Contact Person	Y	0.5%
	Commute Assistance and Ridematching	Y	1.0%
	Guaranteed Ride Home	Y	0.5%
	Orientation, Education, Promotional Programs and/or Materials	Y	1.0%
Shuttles, Transit, and Ridesharing	Carpool or Vanpool Program	Y	2.0%
	Transit or Ridesharing Passes/Subsidies	Y	10.0%
Site Design Initiatives	Pedestrian Oriented Uses and Amenities on Ground Floor	Y	3.0%
Required TDM Measures Total			**18.0%**
Addtional TDM Measures for Large Non-Residential (Medical and Lodging) TOD Projects			
Parking Management for Ridesharing	Reduced Parking	Y	10.0%
	Free/Preferential Parking for Carpools	Y	1.0%
Active Transportation	Showers, Lockers, and Changing Rooms for Cyclists	Y	2.0%
	Secure Bicycle Storage	Y	1.0%
Additional TDM Measures Total			**14.0%**
Required & Additional TDM Measures Total			**32.0%**

4. TDM Implementation and Monitoring

The purpose of the TDM Plan is to reduce vehicle trips, parking demand, traffic congestion, and vehicle emissions generated by the proposed project. Per Section 18.25.080 of the City of San Carlos municipal code, regular monitoring will be necessary to ensure that the implemented TDM measures are effective and achieve the required 22 percent trip reduction. The program will be evaluated annually to assess the actual level of trip reduction achieved at the site.

Implementation

The project applicant will be responsible for ensuring that the TDM measures are implemented. The hotel will designate a Transportation Coordinator who will be responsible for implementing the ongoing TDM measures and maintain the TDM Plan. If the contact person changes for any other reason, the City will be notified of the name and phone number of the designated Transportation Coordinator.

Monitoring

The project's TDM Plan is subject to the City's monitoring and evaluation requirements per the City code. A key strategy of all TDM plans is to monitor their effectiveness with an annual mode-share survey as well as driveway vehicle counts. Taken together, the mode-share survey and the driveway counts provide an excellent measure of the TDM plan's effectiveness. The annual driveway counts and mode-share surveys conducted by the Transportation Coordinator will be utilized to evaluate the success of the TDM Plan.

Driveway Counts

Consistent with common traffic engineering data collection principles, trip generation will be monitored by means of driveway counts. The counts will be conducted one day per year on a typical weekday (Tuesday, Wednesday, or Thursday) during the AM and PM peak hours of commute traffic. The on-site Transportation Coordinator will work with an independent consultant to obtain traffic count data and to document the results in a TDM monitoring report.

Mode-Share Surveys

In order to monitor progress towards the TDM goal, the Transportation Coordinator will conduct an employee and hotel guest mode-share survey to determine the mode split among employees and guests, whether the existing TDM measures are effective, and whether employees prefer different TDM measures. The survey will provide qualitative data regarding employee perceptions of the alternative transportation programs and perceptions of the obstacles to using an alternative mode. The survey results will measure the relative effectiveness of individual program components and facilitate the

design of possible program enhancements. Along with collecting information on mode split, the survey can gather information on use of the bike storage, use of the online kiosk, and walking trips made to nearby retail, restaurant, and entertainment uses.

The annual survey results will be submitted to the City for review, along with an assessment of whether the TDM measures implemented during the preceding year achieve the 22 percent trip reduction target. This will be assessed by comparing the driveway counts to the trip target of this TDM plan report.

In addition to the annual monitoring reports, a five-year review will be conducted to evaluate the overall effectiveness of the TDM measures. If the City determines that the trip reduction goal is not being achieved, additional TDM measures may be implemented. Modifications to the TDM plan may include additional programs or substitute activities for achieving vehicle trip reductions. The annual TDM monitoring report will describe any planned modifications to the TDM program intended to ensure compliance with the trip reduction targets established for this project.

H3: Left-Turn Study

Hexagon Transportation Consultants, Inc.

Memorandum

Date: June 29, 2023

To: Mr. E. C. Lui, Holly Hotel Group, LLC

From: Kai Ling Kuo, Jocelyn Lee

Subject: Left-Turn Study for the Proposed Indigo Hotel in San Carlos, California

Hexagon Transportation Consultants, Inc. has completed a conceptual lane striping plan and left-turn study for the proposed Indigo Hotel project at 501 Industrial Road in San Carlos, California (see Figure 1). The project would build 188 hotel rooms. The site is currently vacant. Access to the site would be provided via the existing driveway on Industrial Road.

The Traffic Operations Analysis prepared by W-Trans (July 2022) recommended a 75-foot southbound left-turn pocket along Industrial Road into the project driveway. To provide the southbound left-turn pocket, the northbound left-turn pocket on Industrial Road to Holly Street would need to be shortened. In order to shorten the northbound left-turn pocket at Industrial Road/Holly Street, a queuing analysis was done to determine the 95th percentile queue under cumulative plus project conditions. A conceptual lane striping plan was developed to demonstrate that the shortened northbound left-turn pocket and added southbound left-turn pocket would fit along Industrial Road while still providing adequate storage.

Left-Turn Queuing Analysis

The northbound left-turn queue at Industrial Road and Holly Street was estimated using Synchro software, which accounts for the effects of upstream intersections and intersection signal timing. The results of the queueing analysis are summarized in Table 1. The queues were analyzed based on the volumes from the project's Traffic Operations Analysis and cycle lengths from field observations in June 2023.

The basis of the queuing analysis is as follows: (1) the Synchro software is used to estimate the 95th percentile number of queued vehicles for a particular movement; (2) the estimated 95th percentile number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated 95th percentile queue length is compared to the existing or planned available storage capacity for the left-turn movement. This analysis thus provides a basis for estimating future turn pocket storage requirements at intersections.

The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles, or a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about one cycle during the peak hour for a signal with a 120-second cycle length). Thus, turn pocket storage designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time for a movement.

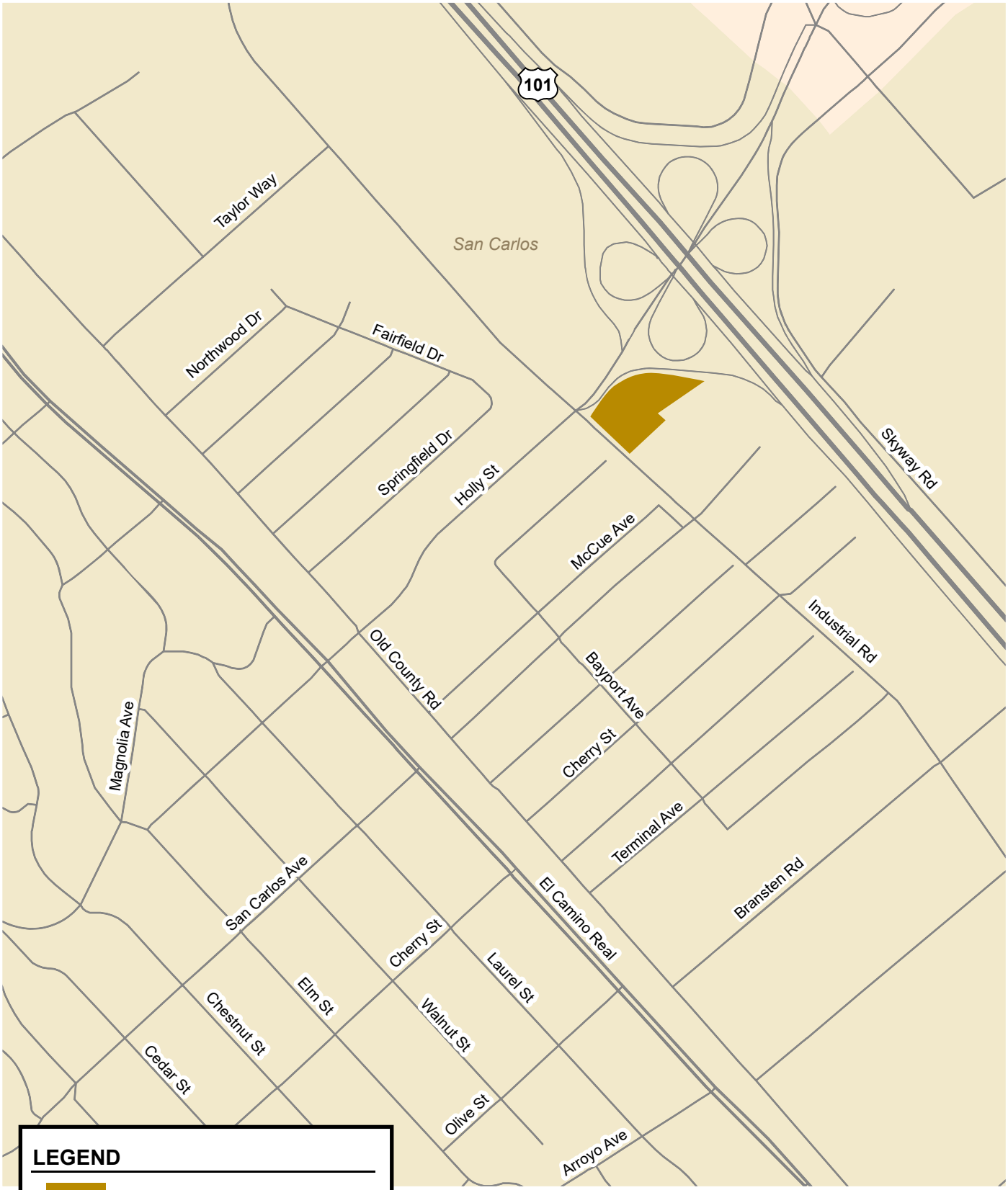


Figure 1
Site Location and Surrounding Area

The results show that the 95th percentile queue length for the northbound left turn from Industrial Road to Holly Street would be 150 feet under cumulative plus project conditions. Field observations showed that the queues during the AM and PM peak hours were short. During the AM peak hour, there was often only one vehicle (25 feet) queued. During the PM peak hour, there was a maximum of four vehicles queued (100 feet). All vehicles were able to cross the intersection within one cycle. Therefore, the northbound left-turn lane on Industrial Road to Holly Street could be reduced from the current 275 feet to 150 feet. The Synchro results are shown in Appendix A.

Table 1
Queuing Analysis

Analysis Scenario	Industrial Rd & Holly St NBL AM	Industrial Rd & Holly St NBL PM
Existing		
95th %. Queue (veh/ln)	2	4
95th %. Queue[1] (ft/ln)	50	100
Cumulative Plus Project		
95th %. Queue (veh/ln)	6	5
95th %. Queue[1] (ft/ln)	150	125

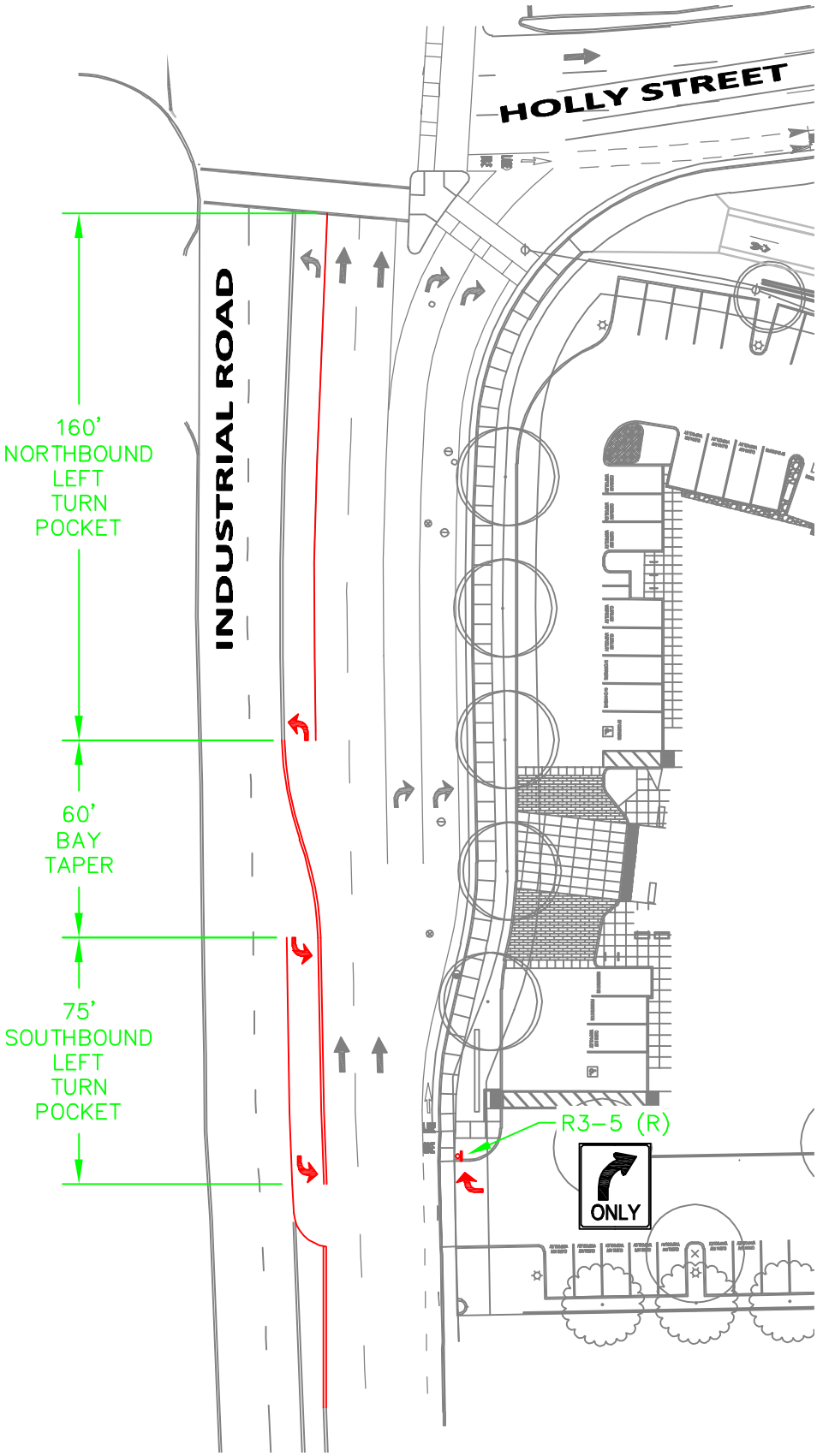
Notes:
NBL = northbound left-turn movement.
1. Assumes 25 feet per vehicle queued.

Proposed Left-Turn Lane Striping

Hexagon prepared a conceptual plan (see Figure 2) along Industrial Road to show the proposed lane striping along the project frontage. Based on the recommendations in the Traffic Operations Analysis, the project should have a 75-foot southbound left-turn storage lane on Industrial Road to the project driveway. The conceptual plan shows that the northbound left-turn lane along Industrial Road at Holly Street would be shortened to 160 feet to accommodate the 75-foot southbound left-turn pocket at the project driveway. The *Highway Design Manual* (HDM) states that 60- to 90-foot bay tapers are normally used in urban areas. A 60-foot bay taper is appropriate where space is restricted and speeds are low. The posted speed lime is 35 mph on Industrial Road and the 60-foot bay taper would be appropriate. Based on the queuing analysis, the proposed 160-foot northbound left-turn left turn lane would accommodate the northbound left-turn 95th percentile queue under cumulative plus project conditions during both peak hours.

Right Turn Only for Outbound Traffic

The project proposes to restrict outbound traffic at the project driveway to right turns only. The conceptual plan (Figure 2) shows a right-turn marking at the driveway with a right-turn only sign for outbound traffic.



GRAPHIC SCALE

50 0 25 50

1 INCH = 50 FEET

FIGURE NO.	SCALE
2	1" = 50'
DRAWN	DATE
J. LEE	6/27/2023

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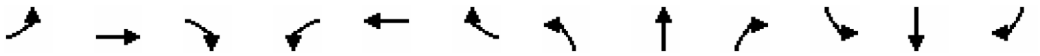
CITY OF SAN CARLOS

INDIGO HOTEL
501 INDUSTRIAL ROAD
CONCEPTUAL LANE STRIPING PLAN

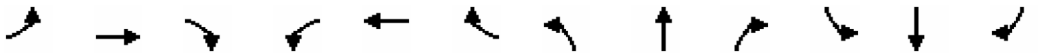
Appendix A

Synchro Queuing Results



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	880	26	388	497	354	25	116	510	171	262	29
Future Volume (vph)	62	880	26	388	497	354	25	116	510	171	262	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	275		275	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			578			501	
Travel Time (s)		14.0			13.6			13.1			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1052	0	422	540	385	27	126	554	186	317	0
v/c Ratio		0.75		0.47	0.58	0.55	0.28	0.33	0.41	0.54	0.31	
Control Delay		42.5		38.9	41.0	6.9	64.5	45.3	10.4	57.2	35.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		42.5		38.9	41.0	6.9	64.5	45.3	10.4	57.2	35.0	
Queue Length 50th (ft)		269		139	188	0	20	85	77	71	104	
Queue Length 95th (ft)		334		204	267	81	55	153	118	112	153	
Internal Link Dist (ft)		535			517			498			421	
Turn Bay Length (ft)				275			275		275	250		
Base Capacity (vph)		1638		964	993	721	99	378	1404	549	1097	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.64		0.44	0.54	0.53	0.27	0.33	0.39	0.34	0.29	

Intersection Summary	
Area Type:	Other



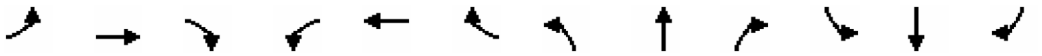
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	501	25	329	733	433	44	330	790	271	163	47
Future Volume (vph)	38	501	25	329	733	433	44	330	790	271	163	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	275		275	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			532			501	
Travel Time (s)		14.0			13.6			12.1			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	613	0	358	797	471	48	359	859	295	228	0
v/c Ratio		0.68		0.29	0.63	0.54	0.50	1.10	0.56	0.66	0.24	
Control Delay		47.5		27.9	33.7	5.2	72.3	125.3	9.6	55.1	30.6	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		47.5		27.9	33.7	5.2	72.3	125.3	9.6	55.1	30.6	
Queue Length 50th (ft)		153		94	250	0	34	~297	92	106	61	
Queue Length 95th (ft)		201		150	359	77	#89	#539	158	161	102	
Internal Link Dist (ft)		535			517			452			421	
Turn Bay Length (ft)				275			275		275	250		
Base Capacity (vph)		1498		1232	1270	870	98	325	1540	556	1001	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.41		0.29	0.63	0.54	0.49	1.10	0.56	0.53	0.23	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

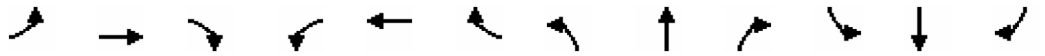


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	880	45	411	598	522	102	438	815	194	490	91
Future Volume (vph)	150	880	45	411	598	522	102	438	815	194	490	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	275		275	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			578			501	
Travel Time (s)		14.0			13.6			13.1			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1169	0	447	650	567	111	476	886	211	632	0
v/c Ratio		0.94		0.64	0.90	0.86	0.63	0.85	0.61	0.59	0.60	
Control Delay		60.8		50.7	65.5	26.5	69.6	57.0	12.8	60.6	39.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		60.8		50.7	65.5	26.5	69.6	57.0	12.8	60.6	39.0	
Queue Length 50th (ft)		339		171	272	117	87	361	152	85	223	
Queue Length 95th (ft)		#454		237	#396	#339	152	#567	196	126	295	
Internal Link Dist (ft)		535			517			498			421	
Turn Bay Length (ft)				275			275		275	250		
Base Capacity (vph)		1244		700	722	660	222	560	1452	494	1115	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.94		0.64	0.90	0.86	0.50	0.85	0.61	0.43	0.57	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



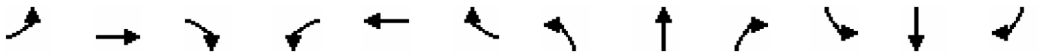
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	577	95	705	733	458	81	557	1026	352	627	79
Future Volume (vph)	58	577	95	705	733	458	81	557	1026	352	627	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	275		275	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			532			501	
Travel Time (s)		14.0			13.6			12.1			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	793	0	766	797	498	88	605	1115	383	768	0
v/c Ratio		0.84		1.04	1.05	0.72	0.59	1.00	0.72	0.83	0.59	
Control Delay		58.1		93.4	95.6	12.7	72.6	81.7	13.9	70.1	34.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		58.1		93.4	95.6	12.7	72.6	81.7	13.9	70.1	34.5	
Queue Length 50th (ft)		231		~363	~389	30	72	~539	185	163	270	
Queue Length 95th (ft)		282		#489	#518	154	128	#768	234	#234	342	
Internal Link Dist (ft)		535			517			452			421	
Turn Bay Length (ft)				275			275		275	250		
Base Capacity (vph)		982		735	758	695	179	602	1539	481	1305	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.81		1.04	1.05	0.72	0.49	1.00	0.72	0.80	0.59	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

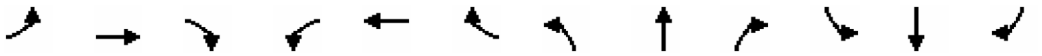


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	880	45	411	598	522	102	438	815	194	490	91
Future Volume (vph)	150	880	45	411	598	522	102	438	815	194	490	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	160		195	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			357			501	
Travel Time (s)		14.0			13.6			8.1			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1169	0	447	650	567	111	476	886	211	632	0
v/c Ratio		0.94		0.64	0.90	0.86	0.63	0.45	0.61	0.59	0.60	
Control Delay		60.8		50.7	65.5	26.5	69.6	37.3	12.8	60.6	39.0	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		60.8		50.7	65.5	26.5	69.6	37.3	12.8	60.6	39.0	
Queue Length 50th (ft)		339		171	272	117	87	163	152	85	223	
Queue Length 95th (ft)		#454		237	#396	#339	152	224	196	126	295	
Internal Link Dist (ft)		535			517			277			421	
Turn Bay Length (ft)				275			160		195	250		
Base Capacity (vph)		1244		700	722	660	222	1065	1452	494	1115	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.94		0.64	0.90	0.86	0.50	0.45	0.61	0.43	0.57	

Intersection Summary

Area Type: Other

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	577	95	705	733	458	81	557	1026	352	627	79
Future Volume (vph)	58	577	95	705	733	458	81	557	1026	352	627	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	275		0	160		195	250		0
Storage Lanes	0		0	2		1	1		2	2		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		615			597			370			501	
Travel Time (s)		14.0			13.6			8.4			11.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	793	0	766	797	498	88	605	1115	383	768	0
v/c Ratio		0.83		0.78	0.78	0.62	0.62	0.71	0.74	0.79	0.73	
Control Delay		56.7		48.5	48.7	6.8	76.2	50.2	14.4	65.8	44.5	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		56.7		48.5	48.7	6.8	76.2	50.2	14.4	65.8	44.5	
Queue Length 50th (ft)		230		308	328	0	72	249	189	161	303	
Queue Length 95th (ft)		281		385	407	90	130	317	238	217	378	
Internal Link Dist (ft)		535			517			290			421	
Turn Bay Length (ft)				275			160		195	250		
Base Capacity (vph)		1011		985	1016	809	160	849	1511	526	1062	
Starvation Cap Reductn		0		0	0	0	0	0	0	0	0	
Spillback Cap Reductn		0		0	0	0	0	0	0	0	0	
Storage Cap Reductn		0		0	0	0	0	0	0	0	0	
Reduced v/c Ratio		0.78		0.78	0.78	0.62	0.55	0.71	0.74	0.73	0.72	

Intersection Summary	
Area Type:	Other