AGENDA ITEM: X.B.

STAFF REPORT
SAN CLEMENTE PLANNING COMMISSION

January 23, 2013

PLANNER: Jeff Hook, Principal Planner

SUBJECT: Review of the Draft General Plan Mobility and Complete Streets Element ("Mobility Element" or MCSE) and Technical Background Report.

BACKGROUND

On November 7th, staff introduced the Draft Mobility and Complete Streets (formerly called the Circulation Element), reviewed technical background for the Element and explained some key terms. At tonight's meeting, the Commission should review the Draft Element's goals, policies and implementation measures. The Commission may also choose to discuss or ask questions on the Draft "Technical Background Document" which provides traffic data on which the Draft Mobility Element is based. The General Plan Advisory Committee (GPAC) reviewed the Draft Circulation Element at its November 1st, 2012 meeting and its recommendations are shown in Attachment 1, in tracked changes format.

The Draft Mobility and Complete Streets Element was prepared by the City's planning consultant, The Planning Center, with assistance from transportation engineering firm Fehr and Peers. The Draft Element contains policies and programs addressing a wide range of transportation needs, including facilities for motorists, bicyclists, pedestrians, public transit and rail users and skateboarders. It addresses funding, design, and construction of public streets, street intersections, sidewalks and trails to create and maintain a safe, environmentally compatible and convenient transportation system. For the first time, the Draft Element includes policies and programs that support a "complete streets, multi-modal transportation perspective" and promote walking, bicycling and other non-automobile-oriented transportation modes. As directed by the City Council, the Mobility Element will also include policies and "candidate projects" from the Bicycle and Pedestrian Master Plan

This is a preliminary Draft. Staff anticipates the Commission will review the Draft, consider GPAC, public, and staff comments and revise the Preliminary Draft accordingly. The Consultant will then update and combine the revised Draft with the other draft elements already reviewed by the Commission; it will then return as part of a "Public Hearing Draft General Plan" for additional Commission and public review in early 2013. Additional changes to the Draft Mobility Element and other elements will be possible then.

DISCUSSION

Review Strategy. The primary focus of tonight's meeting is the draft Mobility Element. The Commission will also review parts of the technical report on which it's based. The Technical Report includes traffic engineering conclusions and data that are much more detailed than the other draft general plan elements the Commission has reviewed to date. However, Commissioners are not expected to be traffic engineers or to have an extensive knowledge of roadway design to review the documents or provide comments. Consultants and City staff will be there to "walk you through" the more technical aspects and respond to questions, as needed. The Commission's role is primarily to review and provide *policy direction and comments on the draft Element* based on possible land use and transportation network changes. In other words, it's important for Commissioners to understand the conclusions and recommendations in the Technical Report, but it should not be the primary focus of your review. Staff suggests that, as a review strategy, Commissioners focus on "if-then" questions that are fundamental to draft Element's policies and implementation measures.

For example, if the draft General Plan allows an increase floor area ratios (FAR) in the Rancho San Clemente Business Park, what would be the corresponding change in traffic volumes and what transportation network changes would be required to prevent significant impacts? Another key question: "what residual FAR capacity exists in the RSC Business Park (i.e. unused development potential) under the current General Plan?

Technical Background Report. Key components to understand are: 1) "base year" traffic conditions (2010), 2) how proposed changes in land use and planned transportation network changes will affect traffic levels and circulation (ADT, LOS, and community impacts), 3) policy options to maintain LOS "D" or better at most intersections (possibly with a few exceptions), how to accommodate multi-modal transportation choices, and 5) how to prevent significant traffic or environmental impacts, including possible changes to the "preferred" land use plan.

Staff continues to have concerns with and/or recommended changes to the Draft Technical Background Report and the draft Mobility Element. Some of those concerns are noted in Attachment 3 and these, plus additional items, will be addressed at the meeting.

Attachments:

1. Draft Circulation Element
2. Technical Background Report (Distributed to Commissioners on 1/11/13)
3. Public Works/Engineering comments
4. PEDal's recommended introductory statement

~~Circulation~~Mobility and Complete Streets

A comprehensive transportation system provides a full range of mobility choices for all potential users. In many jurisdictions, automobile-centered transportation planning has dominated public policy and improvements with much less attention paid to transportation needs of pedestrians, bicyclists, and public transit users. The widest range of mobility choices is realized when all transportation modes are considered, rather than focusing on one mode of travel at the expense of others. This requires an efficient roadway network complemented by safe and convenient facilities for alternative modes of travel.

Like many cities, San Clemente's transportation network evolved over many years. To be effective, transportation improvements require a comprehensive, long-term perspective which considers land use, energy conservation, air quality, environmental protection and other important factors. Such improvements cannot be implemented in isolation, since there are State and ~~Federal~~ , regulations that affect the design and construction of many transportation facilities. Additionally, development outside San Clemente can adversely affect the City's transportation facilities. Successful implementation of a comprehensive transportation network requires effective public outreach and close coordination with other public agencies.

[insert summary preamble paragraph from memo, with link or pop-up to main body of preamble, with ref. to complete streets mobility act and statutory authorization]

PRIMARY GOAL:

A comprehensive, multimodal transportation system that provides all users with safe connections to homes, job centers, schools, community centers, open spaces, recreation areas and visitor destinations.

SECONDARY GOALS:

1. Maintain accessibility and protect San Clemente's environment and natural beauty;
2. ~~R while r~~reduc~~eing~~ dependence on single-occupant use of motor vehicles;
3. ~~1.~~ A~~, with the goal of a~~chiev~~eing~~ and maintain~~ing~~ State and Federal health standards for air and water quality.
4. ~~2.~~ Promote transportation alternatives such as walking, riding buses and bicycles, and using carpools for all users, including those with special needs.
5. ~~3.~~ Widen and extend streets only when there is a demonstrated need and when adverse impacts of such projects can be mitigated to levels of non-significance.~~will cause no significant, adverse environmental impacts~~.
6. ~~4.~~ Make commercial districts and recreational areas ~~the Downtown more~~ functional and enjoyable for pedestrians.

~~5.~~7. Coordinate transportation planning with property owners, businesses and other affected agencies such as Orange County, Cal Trans and the State of California Parks and Recreation Agency.

~~6.~~8. Reduce the need for automobile commuting through land use strategies and by promoting telecommuting and flexible work schedules.

~~7.~~9. Protect wildlife habitat and corridors through environmentally-sensitive design of transportation- and drainage-related facilities.

GOAL AND POLICY SECTIONS:

1. Roadway System
2. Non-Automotive System
3. Transportation Safety
4. Parking
5. Freight Movement
6. Travel Demand Managment

LINKS TO REFERENCE MATERIALS AND BACKGROUND INFORMATION

- Existing Conditions Traffic Analysis
- Regulatory and Policy Overview
- San Clemente Bicycle and Pedestrian Master Plan
- San Clemente Climate Action Plan
- Master Plan of Arterial Highways
- Future Conditions Traffic Analysis

Roadway System

San Clemente's roadway system must meet multiple goals. It must be safe, convenient, free flowing, attractive, multi-modal and compatible with its surroundings. The roadway system must provide the necessary capacity to meet existing motor vehicle circulation needs and future needs resulting from buildout of the Land Use Plan, while meeting or exceeding adopted performance standards. The public rights-of-way must also accommodate pedestrians, bicyclists, landscaping, street furniture, utilities, traffic control devices, and parking in safe and aesthetically pleasing ways.

GOAL: A transportation network that provides mobility and access for all modes of travel including automobiles, transit, bicyclists, pedestrians, and freight vehicles.

POLICIES:

C-1.1. *Roadway system.* We require the City's roadways to:

a. safely accommodate public transit, bicyclists, skateboarders and pedestrians within the public right-of-way.

b. comply with Federal, State, Orange County and local standards for roadway design, maintenance and operation.

c. comply with Orange County Transportation Authority (OCTA) requirements for arterial highways as determined through the Master Plan of Arterial Highways (MPAH).

d. M~~m~~aintain at least Level of Service (LOS) D or better at all intersections, except where multi-modal evaluation is used, where LOS E is deemed appropriate to accommodate complete streets facilities, or ~~conditions are allowed~~ for locations adjacent to I-5, including:

i. Southbound ramps at Camino De Estrella

ii. Northbound Ramps at Avenida Vista Hermosa

iii. Northbound Ramps at Avenida Pico

iv. Southbound Ramps at Avenida Pico

e. provide future capacity as called for by this Element and as shown in the Future Roadway System map

C-1.2. *Transportation Infrastructure.* Traffic control devices and transportation infrastructure operate to serve the needs of all roadway users, including motorists, public transit, pedestrians and cyclists.

C-1.3. *Level of Service.* We evaluate roadway performance from a multi-modal, Complete Streets perspective.

C-1.4. *Development project impacts.* We require development projects to analyze potential off-site traffic impacts and related environmental impacts

through the CEQA process and to mitigate adverse impacts to less-than-significant levels.

C-1.5. *Intersection Improvements.* We evaluate impacts of intersection improvements on all modes of travel including bicyclists, pedestrians, and transit.

C-1.6. *Driveway Access Points.* We require driveway access points onto arterial roadways be minimized and located to ensure the smooth and safe flow of vehicles and bicycles.

C-1.7. *Transportation Monitoring.* We perform regular monitoring of the transportation system and the travel needs and behavior of residents and visitors to guide transportation decisions.

~~C-1.8.~~ *Transportation Mode Choice.* We actively work to reduce automobile use based on locally collected data and goals set through a collaborative process involving City staff, residents and other stakeholders. ~~Goals for changes in each mode of travel include:~~

~~a. Transit Trips: 25% increase in the percentage of San Clemente residents commuting to work via transit at the buildout of the General Plan.~~

~~b. Carpool Trips: 25% increase in the percentage of San Clemente residents commuting to work via carpooling at the buildout of the General Plan.~~

~~c. Bicycle Trips: 200% increase in the number of persons making trips using bicycles at the build out of the General Plan. An interim goal of a 100% increase in the number of bicycle trips is identified by 2025.~~

~~d. Walking Trips: 100% increase in the number of San Clemente residents who walk to work at the buildout of the General Plan.~~

~~C-1.9.~~C-1.8. *Regional Coordination.* We participate in the planning of regional roadway improvements ~~such as interchange improvements along I-5, the extension of the SR-241, and other major freeway and arterial improvements~~.

C-1.9. *Innovative Design.* We will consider use of innovative traffic design features, such as but not limited to Intelligent Transportion System improvements, intersection roundabouts, midblock and corner bulbouts, and road diets where such changes can improve right-of-way safety, multi-modal service and appearance and where they are compatible with surrounding land uses.

C-1.10. *Transportation Infrastructure Design.* In designing transportation facilities such as bridges, retaining walls and related transportation facilities, the city applies design guidelines to maintain high quality design, compatible with community aesthetics.

C-1.11. *Design Integration.* City will ensure that development projects and subdivisions are designed and/or retrofitted to incorporate and be efficiently served by public transit, pedestrian and bicycle facilities.

C-1.12. *Neighborhood-Serving Uses.* Consistent with the Land Use Element, we encourage compatible, neighborhood-serving commercial uses, schools, churches,

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parks and recreational areas near residential neighborhoods so they can be conveniently reached by pedestrians or bicyclists.

C-1.13. *Residential Quality.* Protect the quality of residential areas by achieving quiet and by reducing or controlling traffic routing, volumes and speeds on residential neighborhood streets.

C-1.14. *Transportation Technological Advancement.* We solicit ideas from private industry and other public agencies for the development and implementation of innovative transportation technologies in San Clemente.

C-1.15. *Alternative Paving Treatments.* We support the use of alternate paving materials for public streets, highways, rail beds and other transportation corridors where they can help achieve other General Plan goals, such as noise reduction, beautification, improved fuel efficiency, and safety.

C-1.16. *Streetscapes and Major Roadways.* In the acquisition, design, construction or significant modification of major roadways (highways / regional routes and arterial streets), the City will promote the creation and maintenance of "streetscapes" and linear scenic parkways or corridors that promote the City's visual quality and character, enhance adjacent uses, and integrate roadways with surrounding districts. To accomplish this, the City will:

a. Implement the Master Landscape Plan for Scenic Corridors;

b. Encourage the creation and maintenance median planters and widened parkway plantings;

c. Retain healthy, mature trees in the public right-of-way, where feasible;

d. Emphasize the planting and maintaining California Native tree species of sufficient height, spread, form and horticultural characteristics to create the desired streetscape canopy, shade, buffering from adjacent uses, and other desired streetscape characteristics.

e. Encourage the use of water-conserving landscaping, street furniture, decorative lighting and paving, arcaded walkways, public art, and other pedestrian-oriented features to enhance the streetscape appearance, comfort and safety.

f. Encourage and where possible, require undergrounding or stealthing of overhead utility lines, cellular facilities and related structures.

g. When possible, consolidate signs in the public right-of-way to reduce sign clutter, improve sight distance, maintain or improve safe access and reduce costs.

h. Design and locate street lighting with shielding or "cutoffs" to prevent glare, avoid excess lighting and preserve dark night time skies [add link].

C-1.17. *Traffic Calming.* We design the circulation system serving new developments in such a way to minimize through traffic in all residential neighborhoods.

C-1.18. *Street Redesign.* We seek opportunities to redesign streets so that they are compatible with the ~~existing~~ neighborhood context and the Community's vision of the future.

C-1.19. *Street Widening Alternatives.* We consider alternatives to street widening first, such as ~~improvements to locations which exceed the LOS threshold including~~ signal timing changes and improvements to non-automotive facilities prior to implementing roadway and intersection expansion. [combine with related policy above]

C-1.20. *Deferred Improvements.* Should the City defer construction of street improvements as part of any ~~new~~ development approval, the property owner may be required to sign an agreement to participate in the future installation of the improvements when a more complete street improvement project is feasible. [check for duplication with BPMP; review with City Attorney]

C-1.21. *Regional Transportation Demand Management (TDM).* We support regional efforts by the South Coast Air Quality Management District (AQMD), OCTA, and other agencies to maintain and expand regional programs designed to reduce commuting by single driver autos.

C-1.22. *TDM Financial Incentives.* We encourage businesses to offer financial incentives to their employees including subsidized transit, carpool/vanpool programs, bike to work programs, parking cash-out programs, or some combinations of the incentives.

C-1.23. *Telecommuting.* We support the use of private tele-work centers, satellite offices, or other forms of virtual work environments

C-1.24. *TDM in Development Review.* We encourage on-site features in all new non-residential developments that support TDM. Potential features may include preferred rideshare parking, car sharing vehicles, on-site food service, exercise facilities.

C-1.25. *Regional Access to Avenida Pico.* We limit vehicular~~additional~~ traffic on Avenida Pico from adjacent developments such as Rancho Mission Viejo to ~~beyond~~ those levels associated with the ~~current~~ County entitlements in effect in 2013~~entitlements~~. Any additional costs associated with improving Avenida Pico based on revisions to these entitlements will be the responsibility of RMV instead of the City of San Clemente.

[carry forward scenic highways polices from current gp; add ecr]

GENERAL PLAN FIGURES

- Roadway System Map

ADDITIONAL LINKS:

1. Zoning Code, Chapter 17.76, Trip Reduction and Transportation Demand Management

2. Master Plan of Arterial Highways
3. Orange County Transportation Authority Commuter Services (http://www.octa.net/STR2011.aspx)
4.

Non-Automotive Transportation System

A transportation system that meets users' needs requires bicycle, pedestrian, rail and transit facilities. In addition to providing more travel options, alternative transportation modes have significant co-benefits including reduced fuel usage and emissions, health and recreation benefits, reduced traffic congestion and other quality of life benefits.

Increasing the community's use of alternative travel modes can mean changes to long-standing habits or behaviors. Thus, it requires more effort than merely building new facilities or expanding existing ones. It requires public outreach and education to promote these alternative modes and promote their safe use.

GOAL: An interconnected network of bicycle, pedestrian, skateboard, rail and transit facilities that encourage non-automotive travel.

POLICIES:

C-2.1. *Bicycle and Pedestrian Network.* We plan, implement and maintain a comprehensive bicycle network pursuant to the San Clemente Bicycle and Pedestrian Master Plan.

C-2.2. *Design Standards.* In determining the appropriate standard to apply to a given situation, the City will seek to maximize cyclists' and pedestrians' safety, comfort and convenience.

C-2.3. *Bicycle Friendly Streets.* We consider every public street in San Clemente as a street that cyclists could use and employ bicycle-friendly design using new technologies and innovative treatments, as appropriate

C-2.4. *Bicycle Usage.* We encourage and support the use of bicycles in conjunction with other forms of transportation.

C-2.5. *Walking and Biking Trips.* We encourage city staff, employees, residents and visitors to walk and bicycle as often as possible.

C-2.6. *Intersections and Crossing Locations.* We utilize Federal and State guidelines and standards for traffic operations, signal timing, geometric design, Universal Access (ADA) and roadway maintenance that facilitate walking and bicycling at intersections and other key crossing locations.

C-2.7. *Regional Bicycle and Pedestrian Coordination.* We coordinate regional trail and bicycle planning, acquisition and development efforts with adjacent jurisdictions.

C-2.8. *External Linkages.* We link regional and/or community bicycle and pedestrian routes in the City to existing and proposed routes in adjacent jurisdictions.

C-2.9. *Maintenance and Hazard Monitoring.* We routinely maintain all bicycle facilities and monitor for hazards.

C-2.10. *Bicycle Design Standards.* We utilize Caltrans Chapter 1000 standards and other guidelines as appropriate to design bicycle facilities to reduce slopes, sharp curves and interference with vegetation, pedestrians and motor vehicle traffic (See Caltrans Highway Design Manual Chapter 1000)

C-2.11. *Active Transportation Linkages to Schools.* We assign high priority to the improvement and maintenance of active transportation infrastructure within one half mile of San Clemente schools.

C-2.12. *Grant Funding.* We pursue Federal, State, County, regional and other funding opportunities to increase bicycle and pedestrian mode share percentages, improve transportation system performance, and to improve air quality through a balanced, multi-modal transportation system.

C-2.13. *Non-Automotive Transportation Co-Benefits.* We utilize non-automotive transportation solutions as a tool for achieving economic development and environmental sustainability goals.

C-2.14. *Pedestrian Facilities.* All new streets shall provide for the adequate and safe movement of pedestrians, in compliance with the Americans With Disabilities Act (ADA) [verify wording with PW and consultant]

C-2.15. *Accessible Pedestrian Facilities.* All new streets shall have provisions for the adequate and safe movement of pedestrians, including improvements for the elderly and disabled.

C-2.16. *Sidewalks.* Sidewalks are desirable in all areas, including coastal areas where at minimum it may only be feasible to place a sidewalk on one side of the street.

C-2.17. *Accessible Transit.* We provide pedestrian access to all transit facilities and maintain pedestrian facilities so that they are safe, attractive and well lit.

C-2.18. *Bicycle Facilities.* We require that bicycle facilities be incorporated into development projects, land use plans and capital improvement projects, including:

a. end of trip facilities (bicycle lockers, showers, and changing rooms) within new, non-residential development projects;

b. new and existing City-owned facilities with employees and public visitors;

c. bicycle parking within new multi-family and non-residential sites;

d. publicly accessible bicycle parking in the public right-of-way; and

e. wayfinding signage for all publicly owned or maintained bicycle routes.

C-2.19. *Skateboarding.* We recognize skateboarding as a viable transportation mode and take measures to plan for and safely accommodate skateboarding where compatible with pedestrians and cyclists.

C-2.20. *Rail Facilities and Programs.* We support the retention of passenger rail facilities at North Beach and in the Pier Bowl to help meet inter-city and regional transportation needs. [include policy/program on interim noise reduction

measures such as wayside horns and long term implementation of a Quiet Zone through the entire SC rail corridor.]

C-2.21. *Regional Rail Service*. We support the expansion of Metrolink and Amtrak **service by the Southern California Regional Rail Authority, OCTA, and other** agencies to enhance regional transit accessibility for San Clemente residents, employees, and visitors.

C-2.22. *Coordinated Land Use Planning for Transit.* We encourage higher density, mixed-use development in areas with existing and planned transit service.

C-2.23. *Transit Service*. We support the maintenance of existing bus service by OCTA to ensure that all residents have access to adequate and safe transit.

C-2.24. *Senior and Disabled Public Transit.* We support the provision of appropriate and cost-effective transit services for those who are unable to drive by coordinating with regional transit providers, non-profit service providers, private services, and community-based services.

C-2.25. *Transit Priority in Development Review Process*. We encourage future development to encourage transit ridership by promoting bus turnouts, passenger shelters, transportation kiosks, pedestrian connections to transit, and other measures.

GENERAL PLAN FIGURES

- Bikeways Map

LINKS TO OTHER GENERAL PLAN CONTENT:

- Land Use Element, Focus Areas
- Urban Design Element

ADDITIONAL LINKS:

- San Clemente Bicycle and Pedestrian Master Plan
- Orange County Transit Authority
- Metrolink
- Complete Streets Guidelines (California Office of Planning & Research)

Safety

To encourage non-motorized travel and protect all travelers' safety, San Clemente will use a combination of roadway improvements, urban design strategies, quality bicycle and pedestrian facilities, education/awareness programs, and traffic code enforcement.

GOAL: A transportation system that facilitates safe travel by all modes of travel.

POLICIES:

C-3.1. *Connected Roadway Network.* We require development or redevelopment projects to connect to and where necessary, improve local streets to allow travel by all modes and ensure connectivity with the larger City-wide roadway network.

C-3.2. *Complete Streets Roadway Standards.* We require that pedestrian, vehicular, and bicycle circulation on public and private property be coordinated and designed to maximize safety, comfort and aesthetics and to be consistent with Federal, State, and Orange County laws and standards.

C-3.3. *Safe Routes to School.* We collaborate with the Capistrano Unified School District and private schools to identify and implement safety measures to improve safe travel to and from schools for students, parents, residents and school employees.

C-3.4. *Slow Traffic.* We use a combination of traffic calming measures, speed limits, and traffic code enforcement to slow traffic where non-motorized travel is encouraged.

C-3.5. *Safety Awareness Program.* We encourage and support the creation of a comprehensive safety awareness program for pedestrians, skateboarders, cyclists, and motorists which addresses proper riding behavior, wearing helmets, using lights, and other issues as appropriate.

C-3.6. *Emergency Response.* We manage the transportation system to balance emergency response time and evacuation needs with other community concerns such as Urban Design and traffic calming.

LINKS TO OTHER GENERAL PLAN CONTENT:

- Urban Design Element (additional design policies related to bicycle, pedestrian and transit environments)

ADDITIONAL LINKS:

- San Clemente Bicycle and Pedestrian Master Plan
- Complete Streets Guidelines (California Office of Planning & Research)

Parking

Parking facilities are essential facilities for most types of land uses. The location and availability of parking can influence travel choices. For example, reducing the level of available parking has been shown to reduce vehicle travel and increase biking, walking, and transit use. To strike a balance between the provision of adequate parking to meet residential and business needs and the goal of improving non-motorized travel options, San Clemente strives to provide an appropriate level of "right-sized" parking facilities.

For example, shared parking concepts allow parking spaces to be used by more than one type of user at different times of the day. This can provide more efficient utilization of parking spaces over predictable cycles of the day, week or year. Another strategy is to provide comprehensive and routine management of parking in key destination areas of San Clemente, like the Del Mar/T-Zone, North Beach, and the Pier Bowl.

GOAL: A parking system which provides an appropriate level of multi-modal parking supply in public and private parking areas.

POLICIES:

C-4.1. *Shared Parking.* We require mixed-use and multiple use developments to implement shared parking techniques for complementary land uses.

C-4.2. *Parking Management.* We manage and regularly monitor and evaluate public and private parking resources in key destination areas within the City.

C-4.3. *Parking Demand.* We reduce parking demand by improving transit, bicycle and pedestrian mobility, particularly to and from our key destination areas.

C-4.4. *Alternative Parking Strategies.* We consider alternative parking strategies that address multi-modal parking needs and improve land use efficiency and environmental quality.

LINKS TO OTHER GENERAL PLAN CONTENT:

- Urban Design Element
- Land Use Element, Focus Areas

LINKS TO OTHER GENERAL PLAN CONTENT:

- Zoning Code, Chapter 17.64, Parking and Access Standards

Freight Movement

Freight vehicles are an integral aspect of the transportation network and are crucial to the economic vitality of any city. A key consideration is to manage freight vehicle traffic to limit negative impacts to City residents and employees. Established truck routes allow truck traffic to flow efficiently and minimize the possible exposure of people in sensitive areas, such as residential neighborhoods, hospitals and schools, to accidents involving trucks, high noise levels, and diesel emissions. In addition, guiding truck traffic to designated routes minimizes impacts and maintenance demands on roadways not designated for truck traffic.

GOAL: A transportation system which accommodates the safe and efficient movement of freight vehicles on appropriate routes.

POLICIES:

C-5.1. *Designated Truck Routes.* We identify, implement, and maintain a system of truck routes within the City that allow efficient freight movement while minimizing negative impacts on local roads and noise-sensitive land uses.

C-5.2. *Truck Route Monitoring.* We periodically review and update designated truck routes to ensure efficiency and limit negative impacts on residential areas and other sensitive land uses.

C-5.3. *Freight Corridor Maintenance.* We provide pavement maintenance and routine sign replacement on designated freight corridors under the jurisdiction of the City.

C-5.4. *Parking and Loading.* We encourage business owners to schedule deliveries during off-peak periods to limit freight impacts on other modes of travel.

C-5.5. *Hazardous Materials Transport.* We coordinate with the State and Federal~~of California and other~~ agencies to limit transportation of hazardous materials through the City.

GENERAL PLAN FIGURES:

- Designated Truck Routes

Circulation Implementation Measures

1. Conduct regular surveys of City residents to identify preferences and behavior and report on the survey results to the City Council to benchmark travel behavior
2. Consider establishing a Complete Streets Mobility Committee to assist the City with grant writing and implementation of the BPMP.
3. Implement the Bicycle and Pedestrian Master Plan. (Please refer to the Plan for detailed implementation measures).
4. Implement the Candidate Projects in the Bicycle and Pedestrian Master Plan subject to more detailed engineering studies
5. Implement the following roadway improvements based on the Circulation Element Roadways Map:
    a. La Pata Extension
    b. Camino Del Rio Extension
6. Implement the following intersection improvements based on the analysis of buildout conditions associated with the Land Use Plan [NOTE: the following measures are contingent upon the ultimate adoption of the Land Use Plan as is. Additional land use changes to reduce ADT and Level of Service impacts would eliminate or change some of the following measures.]:
    a. Construct the La Pata/Camino Del Rio intersection to have 3 receiving lanes in the Southbound direction
    b. Restripe the La Pata/Avenida Vista Hermosa intersection to convert one Eastbound Through Lane to an Eastbound Left Turn Lane. The Eastbound Right Turn Lane existing in December 2012 will be converted to an Eastbound Through Lane. Traffic signal modifications will be required to implement this improvement.
    c. Widen the intersection of Camino Vera Cruz and Avenida Vista Hermosa to provide additional Eastbound and Westbound Through Lanes. Widen the Northbound approach to add an additional Northbound Left Turn Lane.
    d. Widen the intersection of Frontera and Avenida Vista Hermosa to provide an additional Eastbound Through Lane and restripe the Eastbound Right Turn Lane to an Eastbound Through Lane. Traffic signal modifications will also be required to implement this improvement.
    e. Widen the La Pata/Avenida Pico intersection to provide an additional Westbound Through lane and receiving lane on the departing approach.
    f. Widen the Calle Amancer/Avenida Pico intersection to provide 2 Southbound Through Lanes, 2 Northbound Left Turn Lanes and 1 Northbound Right-Turn Lane. Restripe a Westbound Through Lane to a Westbound Left Turn Lane. Restripe the Eastbound Left Turn Lane to

and Eastbound Through Lane. Convert existing Eastbound Right Turn Lane to free right operations.

g. Widen the Avenida Presidio/Avenida Pico intersection to provide 4 Eastbound Through Lanes, A Westbound Left Turn Lane, and two Southbound receiving lanes to accommodate the additional Westbound Left Turn Lane. Restripe the Eastbound Right Turn Lane to an Eastbound Through Lane. Restripe the Southbound Through Lane to Southbound Left Turn Lane. Also, restripe the Southbound Right-Turn Lane to a Southbound Through Lane.

h. Restripe the Camino De Los Molinos and Avenida Pico intersection to have one Northbound Through Left Turn Lane and one shared Northbound Through/Right Turn Lane.

7. Update the Municipal Code to require end of trip facilities, such as lockers, showers and enclosed bicycle parking, within non-residential sites and bicycle parking within multi-family and non-residential sites. [make consistent with PC's action]
8. Develop, operate and maintain a comprehensive trail system through San Clemente's open spaces.
9. Work with OCTA to identify shelter options to ensure adequate safety and comfort for transit users and encourage OCTA to provide bus shelters at all bus stops on El Camino Real, Camino De Los Mares, and Avenida Pico. .
10. Prepare feasibility study for a shuttle service connecting North Beach, Del Mar/T-Zone, Pier Bowl, and other major commercial areas within the City.
11. Develop and incorporate~~Study the feasibility of incorporating~~ a Multi-Modal Level of Service (LOS) or other metric to evaluate multi-modal facilities performance into future traffic studies.
12. Prepare/update parking management plans for key destination areas (e.g., North Beach, Del Mar/T-Zone and Pier Bowl).
13. Update the Master Landscape Plan for Scenic Corridors.

Note: The above measures are those in addition to the extensive list of implementation measures identified in the Bicycle and Pedestrian Master Plan. In addition, future roadway network improvements will be identified following the completion of the traffic analysis.

ATTACHMENT 2

DRAFT

City of San Clemente

Mobility and Complete Streets Element

Technical Background Report

Prepared for:
City of San Clemente

January 2013

OC10-0150

Prepared by:

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I. 2010 BASE YEAR CONDITIONS

Fehr & Peers has completed an assessment for the City of San Clemente 2010 Base Year Conditions. The City shares jurisdictional boundaries with the City of Dana Point to the north; San Juan Capistrano to the north-east; and County of San Diego to the south. Interstate 5 (I-5) runs through the City, providing a high level of regional accessibility to the City of San Clemente. San Clemente has a multi-modal transportation system consisting of highways, streets, rail, pedestrian paths, and bikeways. Bus and rail services are provided by the Orange County Transportation Authority (OCTA), Amtrak, and Metrolink.
The traffic assessment evaluates the following conditions:

- 2010 Base Year (Existing) Conditions – Consists of traffic counts originally collected in Year 2010 for the General Plan Update. Due to the timeframe of the General Plan Update effort, counts originally collected in Year 2010 are still considered "Existing".

The potential impacts of the General Plan scenarios on the circulation network were assessed for 36 intersections and 40 roadway segments to determine if they would result in significant impacts to the study area.
According to the City of San Clemente traffic study guidelines, all of the study intersections and study roadway segments operate at acceptable level of service (LOS) under Existing Conditions.

ANALYSIS PARAMETERS

This chapter outlines the geographic scope of the traffic impact analysis, including the study intersections and roadways, and the analysis methodologies employed in this study.

PROJECT STUDY AREA

San Clemente is the southernmost city in Orange County. The City shares jurisdictional boundaries with the City of Dana Point to the north; San Juan Capistrano to the north-east; and County of San Diego to the south. Interstate 5 (I-5) runs through the City, providing a high level of regional accessibility to the City of San Clemente. San Clemente has a multi-modal transportation system consisting of highways, streets, pedestrian paths, and bikeways. Bus and rail services are provided by the Orange County Transportation Authority (OCTA), Amtrak, and Metrolink. The future development of streets, pedestrian and bike paths, and transit in San Clemente are key elements in the City's future social and economic well-being.

STUDY INTERSECTIONS

There are 36 major intersections within the City limits that have been analyzed by Stantec for Existing Conditions. These intersections are those occurring on secondary arterials or higher designation based on the hierarchy of street types. Of the 36 key intersections within the City, 32 intersections are signalized, 3 are Side-Street-Stop-Controlled (SSSC) and one is a future location. Note - Intersections are numbered according to the *City of San Clemente 2010 General Plan Update, Traffic Technical Notebook, Stantec, 2010.*

3 Cam De Los Mares and Cam Del Rio
4 Cam De Los Mares and Cam Vera Cruz
7 Cam De Los Mares and Ave Vaquero
11 Cam Del Estrella and I-5 Northbound on/off ramp
12 Cam Del Estrella and I-5 Southbound on/off ramp
13 Cam De Estrella and Cam Mira Costa
21 Cam Del Rio and Ave La Pata (Future)[2]
23 Ave Vista Hermosa and Ave La Pata
25 Ave Vista Hermosa and Cam Vera Cruz
26 Ave Vista Hermosa and Cle Frontera
27 Ave Vista Hermosa and I-5 NB on/off ramp
28 Ave Vista Hermosa and I-5 SB on/off ramp
34 Ave Vista Hermosa and Ave Pico
35 Ave Pico and Ave La Pata
38 Ave Pico and Cle Amanecer
41 Ave Pico and Cle Del Cerro
42 Ave Pico and Cle Frontera/Ave Presidio
43 Ave Pico and I-5 Northbound on/off ramp
44 Ave Pico and I-5 Southbound on/off ramp
45 Ave Pico and Los Molinos
47 El Camino Real and Ave Pico
51 El Camino Real and El Portal
52 Ave Palizada and I-5 Northbound off ramp
53 Ave Palizada and I-5 Southbound on ramp
55 El Camino Real and Palizada
57 El Camino Real and Ave Del Mar
58 Ave Presidio and I-5 Northbound on ramp
59 Ave Presidio and I-5 Southbound on/off ramp
61 El Camino Real and Ave Victoria/Avenida Presidio
63 El Camino Real and/I-5 Southbound on/off ramp
64 El Camino Real and I-5 Northbound off ramp
65 El Camino Real and Ave San Juan
67 El Camino Real and San Gabriel
76 Cam Vera Cruz and Ave Pico
87 Ave Vista Hermosa and Ave Talega
94 El Camino Real and Cam San Clemente

STUDY ROADWAY SEGMENTS

Within the City, the following 40 roadway segments were selected for analysis based on a review of the roadway network and circulation throughout San Clemente:

ROADWAY	SEGMENT	
	FROM	TO
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera
	Calle Frontera	Via Turqueza
	Via Turqueza	Camino Vera Cruz
	Camino Vera Cruz	Avenida La Pata
	Avenida La Pata	Avenida Talega
	Avenida Talega	Camino La Pedriza
	Camino La Pedriza	Avenida Pico
Camino de Los Mares	Camino El Molino	Calle Agua
	Calle Agua	Avenida Vaquero
	Avenida Vaquero	Calle Nuevo
	Calle Nuevo	Portico del Sur
	Portico del Sur	Camino Vera Cruz
	Camino Vera Crua	Camino del Rio
	Camino del Rio	Portico del Norte

ROADWAY	SEGMENT	
	FROM	TO
Camino De Estrella	Camino Capistrano	Camino Mira Costa
	Camino Mira Costa	I-5 SB on/off ramp
	I-5 NB on/off ramp	Camino El Molino
Avenida Pico	El Camino Real	I-5 NB on/off ramp
	I-5 NB on/off ramp	Avenida Presido
	Avenida Presido	Calle del Cerro
	Calle del Cerro	Calle Amanecer
	Calle Amanecer	Camino Vera Cruz
	Camino Vera Cruz	Avenida La Pata
	Avenida La Pata	Avenida Vista Hermosa
	Avenida Vista Hermosa	Camino La Pedriza
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa
	Avenida Vista Hermosa	Avenida Pico
	Avenida Pico	Calle Amanecer
	Calle Amanecer	Calle del Cerro
Coast Hwy	Camino Capistrano	Camino San Clemente
El Camino Real	Camino San Clemente	Avenida Estacion
	Avenida Estacion	Avenida Pico
	Avenida Pico	Los Molinos
	Los Molinos	Calle Las Bolas
	Calle Las Bolas	Avenida De La Grulla
	Avenida De La Grulla	Avenida Aragon
	Avenida Aragon	El Portal
	El Portal	Canada
	Canada	Escalones
	Escalones	Mariposa

ANALYSIS METHODOLOGIES

Stantec analyzed the operation of the roadway system in the City of San Clemente. The operational analysis included roadway segments, intersections, and freeway ramp junctions. Operations for these roadway facilities are expressed in terms of level of service. Level of service is a general measure of traffic operating conditions whereby a letter grade, from Level of Service (LOS) A (no congestion) to F (high levels of congestion), is assigned. LOS E represents "at capacity" operations.

The flow of vehicles without significant impediments is considered "stable" whereas when traffic encounters interference that limits the capacity acutely, the flow becomes "unstable". These grades represent the perspective of drivers only and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver.

INTERSECTION TRAFFIC OPERATIONS

In conformance with the City's requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of San Clemente requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left turn, through, and right-turn lanes, and a dual left-turn capacity of 3,200 vph. The ICU value translates to a level of service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. Descriptions of the LOS letter grades for signalized intersections, and the relationship between the various volume-to-capacity (V/C) ratios are provided in Table 1-1. Typically, the operations of unsignalized intersections are measured in delays of seconds. For the purposes of this report however, unsignalized intersection performance is measured by V/C ratio as well.

TABLE 1-1
INTERSECTION LOS CRITERA

Level of Service	Description	V/C Ratio
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0.000-0.600
B	Operations with low delay occurring with good progression and/or short cycle lengths.	0.601-0.700
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	0.701-0.800
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	0.801-0.900
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	0.901-1.000
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Over 1.000

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

ROADWAY SEGMENT TRAFFIC OPERATIONS

A roadway operations analysis was performed at roadway segments to provide a high-level evaluation of how the roadway network will perform. It also provides an idea of the amount of traffic that will utilize each roadway and if the existing or proposed lane configurations can adequately handle the volumes. A roadway segment analysis is included in this technical report, but is not considered necessary to evaluate as part of the Circulation Element. Intersection analyses are a far better indication of whether a circulation network can handle the traffic of a specified area.

The level of service for roadway segments were calculated by Stantec for key roadway segments in San Clemente's regional roadway system to evaluate existing traffic conditions. Daily capacity thresholds in accordance with the City of San Clemente General Plan Circulation Element are shown in Table 1-2. This table establishes the maximum daily roadway capacities by street classifications. Each classification may have qualifiers which depict additional capacity needs for the type of land use being served. In general, a commercial designation implies a 10 percent increase in capacity, an augmented designation implies

additional capacity equivalent to one lane on a roadway, and an augmented/commercial designation implies both.

TABLE 1-2
MAXIMUM DAILY ROADWAY CAPACITIES

Classification	Typical Lane Configuration	LOS C	LOS D	LOS E	Augmented LOS E	Commercial LOS E	Aug/Comm LOS E
Freeway (per lane)		16,500	18,500	20,500			
Major	6 Lanes Divided	45,000	50,600	56,300	65,700	61,900	72,300
Primary	4 Lanes Divided	30,000	33,800	37,500	46,900	41,300	51,600
Secondary	4 Lanes Undivided	20,000	22,500	25,000	31,300	27,500	34,400
Local	2 Lanes	10,000	11,300	12,500	18,800	13,800	20,700

Source: *City of San Clemente General Plan Circulation Element, 2003.*

According to the City's General Plan criteria, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

EXISTING CONDITIONS

This chapter discusses the existing transportation conditions in the City to include the existing roadway network, transit network, parking conditions, aviation facilities, and current intersection and roadway segment operations.

VEHICULAR CONDITIONS

ROADWAY FACILITIES

Major arterials within the City include:

Interstate 5 (I-5) is a north-south freeway that runs through San Clemente, and extends from Canada to Mexico. In the City, I-5 has four lanes of travel in each direction.

Avenida Vista Hermosa is an east-west arterial beginning at the I-5 freeway and extending north-east to end at Avenida Pico. Avenida Vista Hermosa is mainly a primary arterial with four lanes of travel with raised medians throughout the street. Avenida Vista Hermosa turns into a Major arterial with six to seven lanes of travel and a raised median between Calle Frontera and I-5.

Camino de Estrella is an east-west primary arterial with four lanes of travel and a divided roadway from Camino Capsitrano to I-5 freeway. Camino de Estrella is located west of the I-5 and turns into Camino de Los Mares east of the I-5.

Camino de Los Mares is an east-west arterial with four to six lanes of travel from I-5 to Portico del Norte. Camino de Los Mares starts as a major arterial from the I-5 with six lanes of travel and continues to Calle Vaquero. It then becomes a secondary arterial from Calle Vaquero to Portico del Norte with four lanes of travel.

Avenida Pico is an east-west arterial with four to six lanes of travel from El Camino Real to Camino Pedriza. Avenida Pico is a primary arterial with four lanes of travel from El Camino Real to I-5 freeway. From the I-5 freeway, Avenida Pico widens out to a major arterial with six lanes of travel and a raised median extending easterly until Camino La Pedriza.

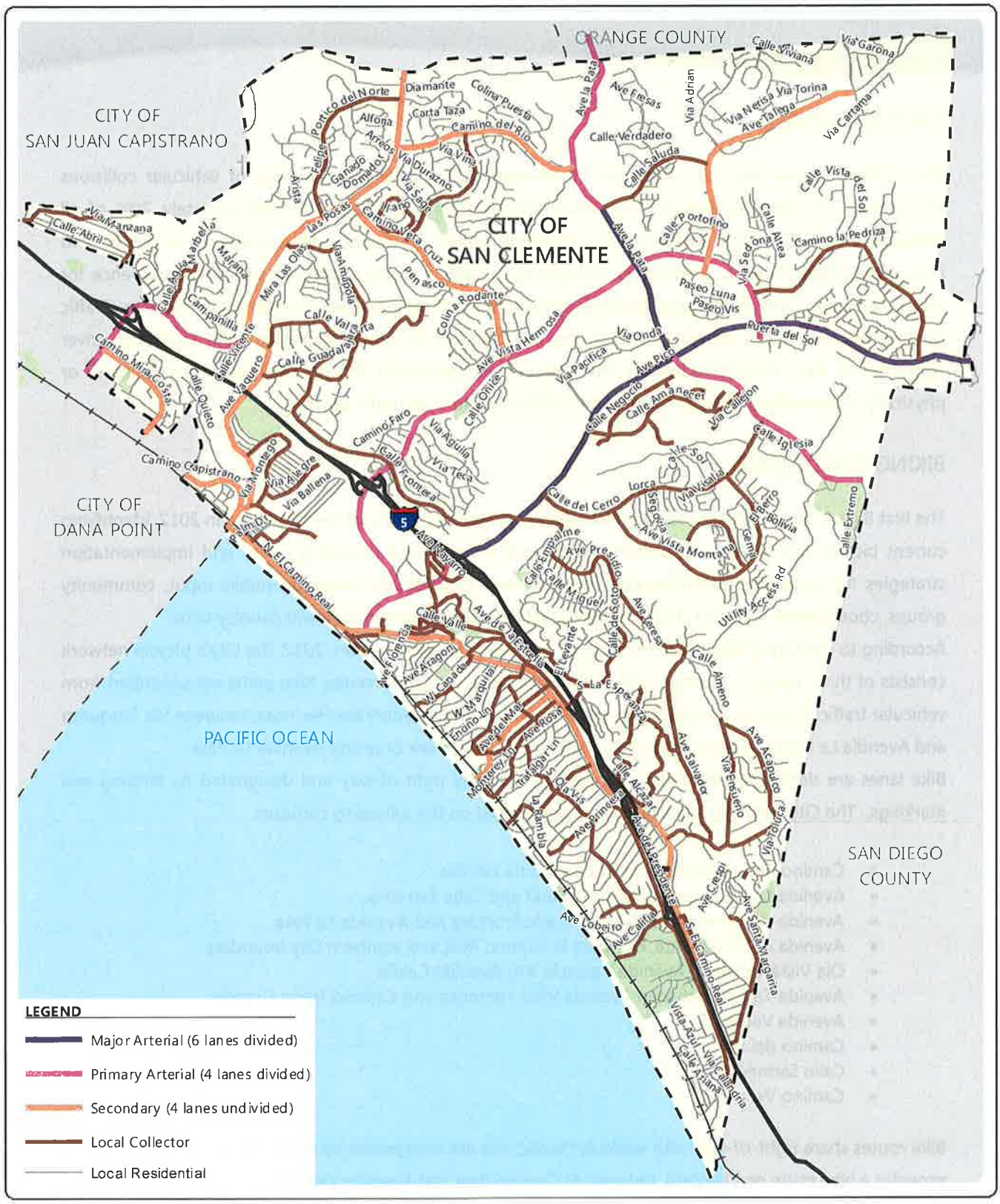
Avenida La Pata is a north-south arterial that provides connection in the easterly section of the City. It is a primary arterial with four to six lanes from Calle Saluda to end at the San Onofre beach trail at Calle Extremo. Avenida La Pata starts at Calle Saluda with four lanes of travel and widens to a six lane arterial

past Avenida Vista Hermosa. It remains a six lane arterial until you pass Avenida Pico where it returns to a four lane arterial and remains as such until the end at Calle Extremo. An extension of Avenida La Pata in San Clemente is under final design to connect with La Pata Avenue, south of Ortega Highway in the City of San Juan Capistrano. The extension will be approximately two miles long and provide additional access to Avenida Vista Hermosa, Avenida Pico, and Ortega Highway. The existing La Pata Avenue section south of Ortega Highway will have two additional lanes of travelling, totaling 5 travel lanes. The new extension connecting to Avenida La Pata will have four travel lanes. Design completion is expected by the end of 2012.

Camino Vera Cruz is a north-south arterial with four lanes of travel and has either a raised median or a painted median within the roadway. Camino Vera Cruz provides connection within the City from Camino de Los Mares to Avenida Pico. Camino Vera Cruz starts at Camino de Los Mares with a painted median and bike lanes for both directions. It continues until Calle Sarmentoso where the street narrows briefly from Calle Sarmentoso to Costa Street and the painted median is removed. Camino Vera Cruz widens out again past Costa Street and maintains the painted median until Costero Risco where a raised median is introduced and exists to the end of the road at Avenida Pico. Bike lanes are maintained along Camino Vera Cruz from Camino de Los mares to Avenida Vista Hermosa.

El Camino Real is a north-south arterial that begins as Pacific Coast Highway from the City limits with Dana Point and runs south to Avenida San Luis Rey where it ends. El Camino Real is a four lane secondary arterial with a 2' painted median from Camino Capistrano to Avenida Pico. El Camino Real continues past Avenida Pico maintaining four lanes of travel but is undivided. Further south, El Camino Real becomes a primary arterial south of Avenida San Gabriel as a painted median is introduced until Avenida Magdelena where it returns as a secondary arterial with an undivided roadway. El Camino Real ends at the City limits in the south approximately 600' north of Cristianitos Rd.

Figure 1-1 identifies the city roadway network by functional classification. Please note that these roadway classifications are takenfrom the OCTA MPAH, the City's current General Plan, and other City documents.



Source: City of San Clemente General Plan

Not to Scale

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EXISTING ROADWAY CLASSIFICATIONS

FIGURE 1-1

TRAFFIC CALMING

The collision review described in Chapter 1 revealed that the leading violation of vehicular collisions throughout the City was travelling at unsafe speeds. This total makes up approximately 20% of all collisions in San Clemente. Traffic calming measures consist of implementing strategies to reduce and slow down traffic. Slowing down traffic will provide a safer and more pleasant travelling experience for drivers, bicyclists, and pedestrians. Slowing down traffic can be achieved through traffic calming. Traffic calming techniques can include a variety and combination of solutions ranging from providing driver education to safe driving, increasing law enforcement, providing bicycle and pedestrian facilities, or physically constructing medians, roundabouts, bulb-outs to slow traffic down.

BIKING CONDITIONS

The first Bicycle and Pedestrian Master Plan was prepared for the City of San Clemente in 2012, identifying current bicycle and pedestrian facilities throughout the City and providing policy and implementation strategies for enhancing the networks. The proposed facilities are based on public input, community groups, coordination with City staff, and best practices used in the industry and country-wide.

According to the *City of San Clemente Bicycle and Pedestrian Master Plan, 2012*, the City's bicycle network consists of three types of facilities: bike paths, bike lanes, and bike routes. Bike paths are separated from vehicular traffic. There are currently bike paths provided on Avenida Vista Hermosa, between Via Turqueza and Avendia La Pata and on Avenida Pico, between Camino Vera Cruz and Avenida La Pata.

Bike lanes are dedicated travel lanes located on roadway right-of-way and designated by striping and markings. The City currently has a bike lanes designated on the following corridors:

- Camino de Los Mares, east of Camino de Estrella,
- Avenida La Pata, between Calle Saluda and Calle Extremo
- Avenida Vista Hermosa, between Calle Frontera and Avenida La Pata
- Avenida del Presidente, between El Camino Real and southern City boundary
- Ola Vista, between Avenida Valencia and Avenida Califia
- Avenida Talega, between Avenida Vista Hermosa and Camino Tierra Grande
- Avenida Vaquero
- Camino del Rio
- Calle Sarmentoso
- Camino Vera Cruz

Bike routes share right-of-way with vehicular traffic and are designated by street signs. Currently, the City provides a bike route on Ola Vista, between El Camino Real and Avenida Valencia.

An additional benefit to bike facilities is that other legally non-motorized modes may use them as well. These other modes can include skateboards, skates, wheelchairs and mobility scooters.

The City proposes to enhance the bicycle network by considering candidate projects including five bike paths, 10 bike lanes, and 26 bike routes and one improvement to the existing network and providing mass connectivity between key uses and destinations.

PEDESTRIAN CONDITIONS

The City, the *City of San Clemente Bicycle and Pedestrian Master Plan, 2012* emphasizes the importance of providing a complete and pleasant walking environment for residents and visitors. The Plan focuses on pedestrian demand and has set a number of criteria revolving around safety, feasibility, accessibility, connectivity, and walkability to use as guidance in providing pedestrian mobility throughout the City. Locations for proposed facilities were selected using a point system. Key considerations included how many pedestrian collisions occurred at a location or how much value and use a facility would contribute to an area. Congestion surrounding schools and at freeway locations were also measured in selecting potential locations. Based on these criteria, the Plan proposes to implement nine pedestrian facilities that ranged from closing gaps between sidewalks, adding sidewalks at freeway locations, widening sidewalks with mixed bicycle usage, and enhancing pedestrian signals and crossings. The facilities are proposed for the western area of the City, with some proposed on Avenida Vista Hermosa, Avenida Pico, and El Camino Real.

PARKING CONDITIONS

Parking is a vital component of the General Plan. Parking availability, ease of use, and location influence journey destination, mode choices and time of travel for road users. For example, an abundance of parking generally creates a high level of private vehicle use, whereas too little parking may influence the location of business and commerce to areas where their parking demands can be better met. The policies and management practices affecting parking lead to outcomes that, in turn, can affect land use, air quality, traffic congestion, travel behavior, safety, and economic development, not to mention revenue lines.

In the City of San Clemente, parking is provided by two basic methods: on-street and off-street parking. On-street parking generally includes the use of one or both sides of the road and off-street parking includes private and/or municipal surface parking lots at grade, residential driveway, and municipal parking structures (above and below grade garage and ramp structures). Publicly owned parking lots are concentrated in the downtown area.

For the City of San Clemente, parking for new development is determined through the Municipal Code requirements (Chapter 17.64), which provides the guideline for the number of parking spaces. The City of

San Clemente has 10 major categories in their parking requirements and approximately 49 individual entries.

- Commercial Uses
- Hospital Uses
- Industrial Uses
- Lodging
- Professional Offices, Financial Institutions and Related Uses
- Public/Quasi-Public Uses
- Residential Uses
- Restaurants
- Unclassified Uses
- Vehicle-Related Repair, Sales and Service Car Wash

In addition, the City of San Clemente parking requirements were reviewed to determine how well current practices regarding parking planning are implemented. Some current trends in parking planning include:

- Limiting Parking Categories: The current trend in parking planning is to limit the number of parking categories instead of having more specific requirements for several reasons. First, for many commercial and retail buildings, the use of the facility may change over time. Many of these buildings are planned prior to identifying the actual occupants. Second, programs with a large number of categories are often more difficult to implement since there is a greater chance for the applicant and City to disagree on the precise use or category. As noted above, the City of San Clemente has 10 major categories with approximately 49 individual entries in the parking requirements. Based on this information, it indicates that the City has not implemented the practice yet.

- Allowing Off-Site Parking: Based on the Municipal Code, parking required for nonresidential uses may be provided off-site which is no more than 300 feet from the premises through the execution of a legal document. Based on this information, the City has already implemented this practice.

- Shared Parking Studies: Shared parking is a methodology developed by the Urban Land Institute (ULI) which allows for multiple uses on the same site to share parking based on differences in parking demand over time. As noted in the Municipal Codes, the City has already allowed shared parking for all nonresidential and mixed-use zones.

- Waivers of Parking Requirements: The Parking Waiver program for the Downtown Parking Study Area is designed to service the unique characteristics of this area which influence parking demand. It was developed to address the reduced parking demand experienced within the study area. It should be noted that the waivers are not automatic and require

discretionary action on the part of the City. Waivers are to be granted based on the availability of public parking near the proposed project, the project's contribution to the pedestrian atmosphere of the Downtown Parking Study Area, parking demand and mix of uses.

TRANSIT FACILITIES

Providing public transit is beneficial to a City in a number of ways. It provides transportation for groups not having access to vehicles. Public transit also helps groups who choose not to drive and take alternative methods of travelling. Public transit also provides relief to a City's traffic network because people who are not driving their individual vehicles on the road are not contributing to traffic congestion. Level of service is measured on the volume of traffic at an intersection or roadway compared to the capacity of that location. Less traffic at a location yields better LOS.

Bus service in San Clemente is operated by the Orange County Transportation Authority (OCTA), which provide access to employment centers to the north, and shopping and recreational areas. Currently, OCTA operates on four routes in the San Clemente area. There is also one major rail line serving the City of San Clemente, used by both ***Amtrak*** and ***Metrolink***. It should be noted that the two passenger rail services operate separate stations in San Clemente at two different locations. The Amtrak station is located at San Clemente Pier (shared with Metrolink), while the Metrolink station is located at the north beach area. Transit service in San Clemente is described in detail below.

Route 1 operates all seven days of the week and connects San Clemente to Long Beach. Within the City of San Clemente, Route 1 runs along El Camino Real. Outside of the City, it runs along Pacific Coast Highway (PCH). This route has timed stops at the intersection of El Camino Real and Santa Margarita and El Camino Real and Avenida Pico within the City. Weekday service frequency is approximately every half-hour, with service provided from 4:30 AM to 11:00 PM, and weekend/holiday service frequency is approximately every hour, with service provided from 5:20 AM to 9:30 PM.

Route 91 operates all seven days of the week and connects San Clemente to Laguna Hills. Within the City of San Clemente, Route 91 runs along El Camino Real and Los Molinos. Outside of the City, it runs along Paseo De Valencia, Camino Capistrano, Del Obispo Street and PCH. This route has a timed stop at the intersection of Avenida Pico and Los Molinos within the City. Weekday service frequency is approximately every 35 minutes, with service provided from 4:57 AM to 11:16 PM, and weekend/holiday service frequency is approximately 45 minutes, with service provided from 6:50 AM to 8:24 PM.

Route 191 operates all seven days of the week and connects San Clemente to Mission Viejo via Rancho Viejo Road, Camino Capistrano and El Camino Real. This route has a timed stop at the intersection of El Camino Real and Santa Margarita, San Clemente Pier, San Clemente Metrolink Station within the City. Weekday service frequency is approximately every 30 minutes during the AM and PM peak hours, with service provided from 6:00 AM to 7:52 PM, and weekend/holiday service frequency is approximately 60 minutes, with service provided from 6:06 AM to 7:30 PM.

Route 193 operates Monday through Friday and connects San Clemente Metrolink Station to Sears Plaza via Camino de Los Mares, Camino Vera Cruz and Avenida Pico. This route has a timed stop at San Clemente Metrolink Station, Wal-Mart San Clemente and Sears Plaza within the City. Weekday service frequency is approximately every 60 minutes, with service provided from 6:00 AM to 7:52 PM, and weekend/holiday service frequency is approximately an hour, with service provided from 5:53 AM to 7:14 PM.

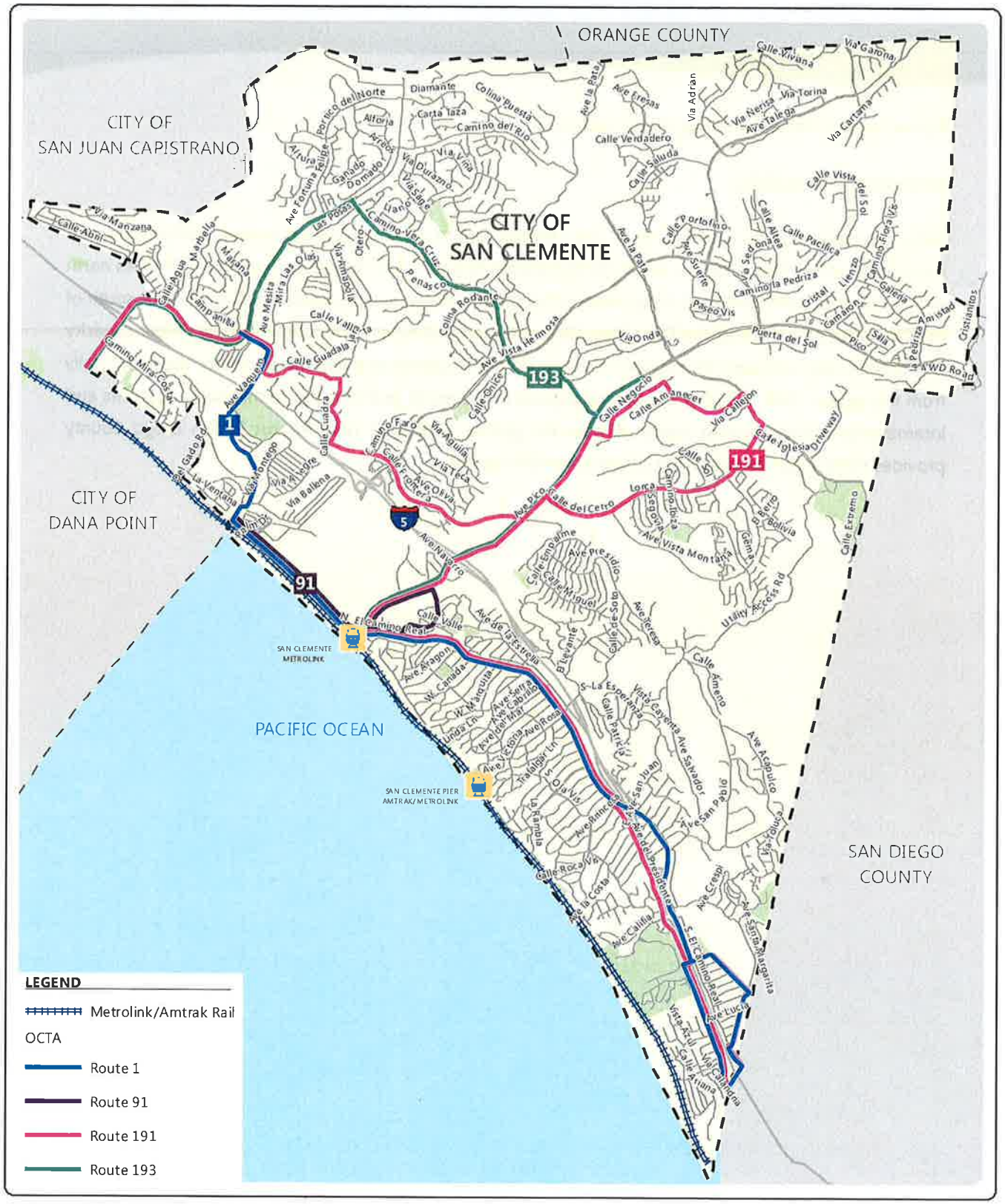
Amtrak provides service for the purpose of recreation in the City of San Clemente. Trains (Pacific Surfliner and California Coastal Services) stop at the San Clemente Pier daily in the spring and summer, from late April to October. During the rest of the year, service is limited to weekends and holidays only. Currently, there are four northbound and southbound trains which serve this facility on the weekdays. On the weekends, there are two trains (both northbound and southbound) which serve this facility. The location of this facility is provided on Figure 3. Regional access to this facility occurs from Avenida Del Mar and Avenida Madrid which connects to El Camino Real. Local access to the station is provided through the driveway along Avenida Victoria. Paid parking spaces are currently provided at the station. OCTA bus Route 191/191A serves the station during summer.

Metrolink commuter trains inaugurated service for the City of San Clemente in 1995, providing peak hour commuter transportation to key cities in both Orange and Los Angeles Counties. Currently, two Metrolink lines provide service in the City of San Clemente (at San Clemente Metrolink Station and San Clemente Pier), which are the Orange County Line and Inland Empire – Orange County Line. Currently, there are 28 northbound and southbound trains which stop at San Clemente Metrolink Station on the weekdays when trains begin accessing the station at 5:04 AM and with service continuing until 7:57 PM. On the weekends, service begins at 9:15 AM and continues until 6:11 PM with 8 trains (both northbound and southbound) accessing the station. The location of this facility is provided on Figure 3. Regional access to this station occurs from Avenida Pico and El Camino Real. Local access to the station is provided through the driveways along El Camino Real. Paid parking spaces are currently available at the station. OCTA bus Routes 91 and 191 service the station. It should be noted that the two northbound and two southbound Metrolink trains only stop at San Clemente Pier station on weekends.

Figure 1-2 identifies the existing transit network.

AVIATION FACILITIES

There are three airports near the City – John Wayne Airport (Orange County) located approximately 25 miles north of San Clemente, Los Angeles International Airport (LAX) located approximately 60 miles north of San Clemente, and Lindbergh Field Airport (San Diego County) located approximately 60 miles south of the City, offer air service to the City. John Wayne Airport has more than doubled its passenger capacity and dramatically increased the number of major domestic carriers and commuter airlines departing daily from the airport. LAX is one of the busiest airports in the world, and it has all of the major domestic and international airlines, serving points all over the globe. Lindbergh Field Airport in San Diego County provides most major domestic and commuter airline service.



Source: OCTA

Not to Scale

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EXISTING TRANSIT ROUTES

FIGURE 1-2

EXISTING INTERSECTION OPERATIONS

As previously stated, LOS at study intersections were calculated by Stantec for the AM and PM peak hour. As shown in Table 1-3, all of the intersections operate at an acceptable Level of Service (LOS) of C or better during the peak periods. Figure 1-3 presents the LOS operations at study intersections. Existing intersection LOS worksheets are provided in Appendix 1-1

TABLE 1-3
2010 BASE YEAR CONDITIONS INTERSECTION LEVEL OF SERVICE

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.25	A	0.19	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.29	A	0.33	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.39	A	0.39	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.39	A	0.46	A
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.52	A	0.77	C
13	Cam De Estrella and Cam Mira Costa	Signalized	0.30	A	0.31	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	N/A	N/A	N/A	N/A
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.46	A	0.35	A
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.71	C	0.61	B
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.48	A	0.50	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.41	A	0.40	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.31	A	0.38	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.23	A	0.21	A
35	Ave Pico and Ave La Pata	Signalized	0.24	A	0.36	A
38	Ave Pico and Cle Amanecer	Signalized	0.56	A	0.61	B
41	Ave Pico and Cle Del Cerro	Signalized	0.64	B	0.53	A
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	0.59	A	0.49	A
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.68	B	0.68	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.63	B	0.69	B

Notes:
1. City of San Clemente 2010 General Plan Update assigned intersection number.
2. Intersection does not exist under Existing Conditions.

Source: City of San Clemente 2010 General Plan Update, Traffic Technical Notebook, Stantec, 2010.

TABLE 1-3 CONT'D
2010 BASE YEAR CONDITIONS INTERSECTION LEVELS OF SERVICE

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
45	Ave Pico and Los Molinos	Signalized	0.40	A	0.52	A
47	El Camino Real and Ave Pico	Signalized	0.37	A	0.43	A
51	El Camino Real and El Portal	Signalized	0.29	A	0.37	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.56	A	0.42	A
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.43	A	0.44	A
55	El Camino Real and Palizada	Signalized	0.43	A	0.57	A
57	El Camino Real and Ave Del Mar	Signalized	0.21	A	0.43	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.48	A	0.41	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.31	A	0.26	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.42	A	0.44	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.49	A	0.48	A
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.36	A	0.35	A
65	El Camino Real and Ave San Juan	Signalized	0.23	A	0.29	A
67	El Camino Real and San Gabriel	Signalized	0.25	A	0.27	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.32	A	0.33	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.45	A	0.28	A
94	El Camino Real and Cam San Clemente	Signalized	0.38	A	0.45	A

Notes:
1. City of San Clemente 2010 General Plan Update assigned intersection number.

Source: City of San Clemente 2010 General Plan Update, Traffic Technical Notebook, Stantec, 2010.

EXISTING ROADWAY SEGMENT OPERATIONS

As previously stated, LOS at study roadway segments were calculated by Stantec on a daily basis. Figure 3 presents the daily traffic volume and LOS operations on study roadway segments. Existing roadway segment LOS worksheets are provided in Appendix 1-1.

TABLE 1-4
2010 BASE YEAR CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	29,370	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	25,819	C
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	25,126	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	18,873	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	14,323	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	10,787	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	8,087	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	33,368	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	25,346	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	17,365	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	16,572	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	14,880	C
	Camino Vera Crua	Camino del Rio	2	Primary	30,000	7,172	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	1,010	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	4,303	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	14,237	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	36,232	C

Source: City of San Clemente 2010 General Plan Update, Traffic Technical Notebook, Stantec, 2010.

TABLE 1-4 CONT'D
2010 BASE YEAR CONDITIONS ROADWAY LEVEL OF SERVICE

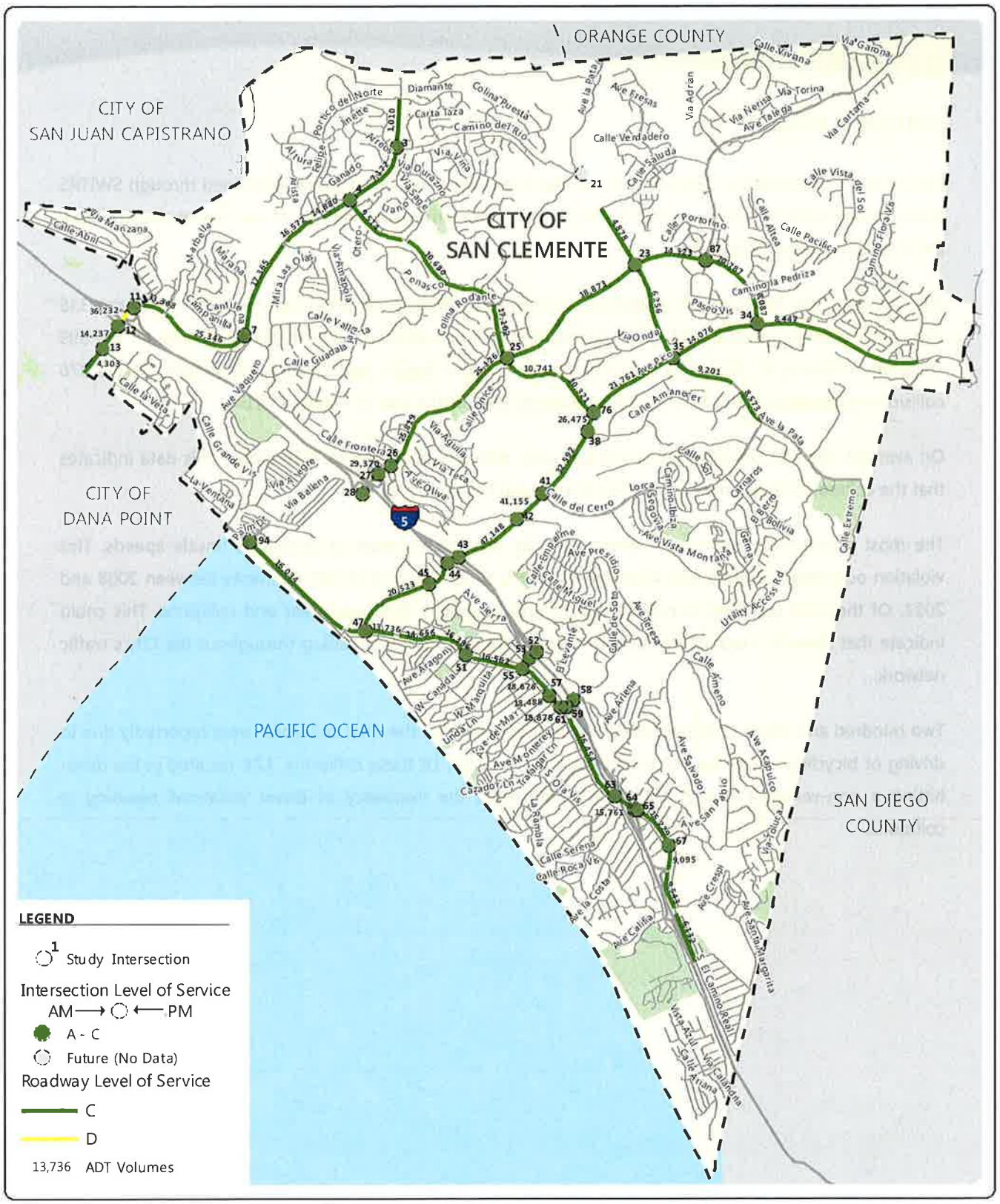
Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	20,523	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	47,148	D
	Avenida Presido	Calle del Cerro	3	Major	45,000	41,155	C
	Calle del Cerro	Calle Amanecer	3	Major	45,000	32,592	C
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	26,475	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	21,761	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	14,076	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	8,447	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	4,878	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	6,256	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	9,201	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	8,573	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	15,947	C
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	16,034	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000		C
	Avenida Pico	Los Molinos	2	Secondary	20,000	13,736	C
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	14,656	C
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		C
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	16,386	C
	Avenida Aragon	El Portal	2	Secondary	20,000		C
	El Portal	Canada	2	Secondary	20,000	16,562	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Source: City of San Clemente 2010 General Plan Update, Traffic Technical Notebook, Stantec, 2010.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 1-4, all roadway segments operate at an acceptable daily level of service, with the exception of the following location:

a. El Camino Real, between Camino San Clemente and Avenida Estacion



Source: Austin Foust (Existing LOS); Stantec (Future LOS)

Not to Scale

EXISTING INTERSECTION AND ROADWAY SEGMENT LEVEL OF SERVICE

FIGURE 1-3

FEHR PEERS

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COLLISION REVIEW

Fehr & Peers completed a collision review of San Clemente using collision data obtained through SWITRS from January 2008 to December 2010. This chapter summarizes the findings of the review and identifies areas where safety is of concern.

The City had 338, 399, and 376 collisions occur in Year 2008, 2009, and 2010 respectively. Of the 338 collisions occurring in 2008, 103 collisions resulted in seven deaths and 124 injured victims. Of the 399 collisions occurring in 2009, 112 collisions resulted in two deaths and 142 injured victims. Of the 376 collisions occurring in 2010, 112 collisions resulted in no deaths and 153 injured victims.

On average, the City collision rate is 371 per year, with 376 occurring in 2010 alone. This data indicates that the collision rate has been consistent throughout the years.

The most common collision cause within the City was the violation of driving at unsafe speeds. This violation occurred 222 times and accounts for 19.9% of all collisions in San Clemente between 2008 and 2011. Of the total accidents occurring due to unsafe speeds, 55% were rear end collisions. This could indicate that there is a lack of traffic control and calming to deter speeding throughout the City's traffic network.

Two hundred and seven collisions, which account for 18.6% of the total collisions, were reportedly due to driving or bicycling under the influence of alcohol or drugs. Of these collisions, 32% resulted in the driver hitting a non-vehicular object. Table 1-5 summarizes the frequency of driver violations resulting in collisions.

TABLE 1-5 COLLISION BY VIOLATION		
Violation Category	**Collisions**	**Percent**
Unsafe Speed	222	19.90%
Driving or Bicycling Under the Influence of Alcohol or Drugs	207	18.60%
Improper Turning	166	14.90%
Automobile Right of Way	164	14.70%
Unsafe Starting or Backing	71	6.40%
Traffic Signals and Signs	55	4.90%
Unsafe Lane Change	25	2.20%
Following Too Closely	24	2.20%
Wrong Side of Road	20	1.80%
Pedestrian Right of Way	19	1.70%
Pedestrian Violation	15	1.30%
Improper Passing	9	0.80%
Other Than Driver (or Pedestrian)	9	0.80%
Hazardous Parking	6	0.50%
Other Hazardous Violation	4	0.40%
Brakes	1	0.01%
Other Improper Driving	1	0.10%
Source: City of San Clemente raw collision data from 2008-2010.		

After reviewing aerials and measuring typical storage lengths at intersection left and right turn pockets, it was assumed that collisions occurring at an intersection are within 500' of the intersection and mid-block collisions occur at greater than 500' distances from an intersection. Collisions occurring at intersections accounted for 1,039 collisions, or 93.3%. Collisions occurring at non-intersection locations accounted for 70 collisions, or 6.3% of total collisions. The majority of collisions occurred on Major, Primary, and Secondary arterials throughout the City. From the collision data, the five roads in the City of San Clemente with the highest number of collisions are shown on Table 1-6.

TABLE 1-6 CITY OF SAN CLEMENTE ROADS WITH MOST COLLISIONS

Road	Collisions	
	Volume	Percentage
El Camino Real	322	28.9%
Avenida Pico	185	16.6%
Camino De Los Mares	75	6.7%
Vista Hermosa	52	4.7%
Camino Vera Cruz	42	3.8%

Source: City of San Clemente raw collision data from 2008-2010.

Avenida Pico carries traffic to and from I-5. The fact that these arterials contain the highest volume of collisions is expected considering these arterials are designed to carry the high capacities and are key arterials to the City.

Of the total collisions, 47 involved bicyclists and 46 involved pedestrians over three years. The bicycle collisions resulted in one death and 39 injuries. The collisions involving a pedestrian resulted in two deaths and 44 injuries. All of the collisions involving a pedestrian resulted in injury.

II. REGULATORY POLICY OVERVIEW

A. INTRODUCTION

The regulatory framework is used to inform decision makers about the regulatory agencies/policies that affect transportation in the City. This enables them to make informed decisions about planning improvements to transportation systems in the City. This chapter includes a discussion of funding as well as regulation. Major policy documents impacting the transportation system in the City of San Clemente include laws at the federal and state level, and planning documents at a regional level.

B. FEDERAL REGULATIONS

In 1982, the federal government passed the Surface Transportation Assistance Act (STAA). This act requires states to allow larger trucks on the "National Network", which is comprised of the Interstate System plus the non-Interstate Federal-Aid Primary System. "Larger trucks" include (1) doubles with 28.5 foot trailers, (2) singles with 48-foot semi-trailers and unlimited kingpin-to-rear axle (KPRA) distance, (3) unlimited length for both vehicle combinations, and (4) widths up to 102 inches.

C. STATE REGULATIONS

AB 1358 – COMPLETE STREETS ACT

The California Complete Streets Act of 2008 was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 required circulation elements to address the transportation system from a multi-modal perspective. The bill states that streets, roads, and highways must "meet the needs of all users...in a manner suitable to the rural, suburban, or urban context of the general plan." Essentially, this bill requires a circulation element to plan for all modes of transportation where appropriate – including walking, biking, car travel, and transit.

The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and the disabled. For further clarity, AB 1358 tasks the Governor's Office of Planning and Research to release guidelines for compliance with this legislation by January 1, 2014.

AB 32 – GLOBAL WARMING SOLUTIONS ACT

With the passage of the Global Warming Solution Act of 2006, the State of California committed itself to reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resource Board (ARB), which is coordinating the response to comply with AB 32, is currently on schedule to meet this deadline.

In 2007, ARB adopted a list of early action programs that could be put in place by January 1, 2010. In 2008, ARB defined its 1990 baseline level of emissions, and by 2011 it completed its major rule making for reducing GHG emissions. Rules on emissions, as well as market-based mechanisms like the proposed cap and trade program, came into effect January 1, 2012. The cap and trade program controls pollution by a governing agency selling permits on the amount of pollutants a firm can emit. A firm's pollutants cannot exceed the limit. Firms requiring the need to increase their emissions must purchase permits from other firms requiring fewer permits.

SB 375

On December 11, 2008, the ARB adopted its Proposed Scoping Plan for AB 32. This scoping plan included the approval of SB 375 as the means for achieving regional transportation-related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

There are five major components to SB 375. First, SB 375 will address regional GHG emission targets. ARB's Regional Targets Advisory Committee will guide the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, will be updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs will be required to create a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on eight-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must

conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Residential or mixed-use projects qualify if they conform to the SCS. Transit oriented developments (TODs) also qualify if they 1) are at least 50% residential, 2) meet density requirements, and 3) are within one-half mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emission modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC). Regional Transportation Planning Agencies, cities, and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

SB 97

While AB 32 places a limit on GHG emissions, it does not specify how climate change regulations affect requirements of the California Environmental Quality Act (CEQA). SB 97, passed in 2007, required the Governor's Office of Planning and Research to develop CEQA guidelines by July 1, 2009 with the provision that these guidelines are certified by the California Resources Agency by January 1, 2010.

D. REGIONAL REGULATIONS

ORANGE COUNTY CONGESTION MANAGEMENT PROGRAM

The Orange County Congestion Management Program (CMP) was originally adopted in 1991 and updated most recently in 2011. The goals of the Orange County's CMP are to support regional mobility and air quality objectives by reducing traffic congestion; provide a mechanism for coordinating land use and development decisions that support the regional economy; and determine gas tax fund eligibility.

To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA was designated by Orange County's local governments as the Congestion Management Agency (CMA) for the County. As a result, OCTA is responsible for the development, monitoring, and biennial updating of Orange County's CMP.

TRAFFIC IMPACT ANALYSIS REQUIREMENTS

The CMP also contains several requirements related to the preparation of traffic studies for projects which have a regional impact, based on the number of trips they are expected to generate. The purpose of these analysis requirements are to ensure that traffic impacts associated with projects are disclosed;though it is rare for projects to not prepare traffic studies given the requirements of CEQA. These reports are designed to provide a basis for assessing the impacts of land use decisions on the regional transportation system, both within and outside the permitting jurisdiction, by providing a consistent format to identify impacts and mitigations, and to evaluate mitigation costs. The CMP analysis requirements are intended to supplement CEQA requirements related to traffic analysis. These analysis requirements set forth certainrequirements related to methodology and approaches for traffic studies, which are commonly used in Orange County. It should be noted that since traffic study is being prepared to comply with CEQA, the minimum requirements of the CMP are being met. Additionally, the requirement to prepare a traffic study under the CMP does not rely on whether there are CMP facilities included in a City but instead on the size of the project.

Currently, there are no CMP intersections within City of San Clemente. I-5, between Camino Estrella and El Camino Real is the CMP monitoring freeway within the City.

RENEWED MEASURE M (M2)

In 1990, Orange County voters approved Measure M (M1), a 20-year program for local transportation improvements funded by a half-cent sales tax. OCTA was designated to administer Measure M funds for the improvement of Orange County's freeways, streets and roads, and transit system. On November 7, 2006, Orange County voters approved the renewal of the Measure M one-half cent sales tax for the transportation improvements. The renewal of Measure M (M2) offers the opportunity to replicate, and perhaps exceed, the performance in delivering on the original.

According to the Renewed Measure M Early Action Plan Report prepared by OCTA, more than $1.6 billion in transportation improvements, promised to the voters in M2 could be underway by 2012.

2009 OCTA COMMUTER BIKEWAYS STRATEGIC PLAN

The *Commuter Bikeways Strategic Plan (CBSP)* was developed by OCTA in 2009 to encourage the enhancement of Orange County's regional bikeways network, in order to make bicycle commuting a more viable and attractive travel option. The goal of the CBSP is to help address the many challenges by providing: a strategy for improving the regional bikeway network; eligibility for state Bicycle Transportation Account (BTA) funds; identification of roles and responsibilities for OCTA regarding

bikeways; and documentation of existing and planned Orange County bikeways. The CBSP is a long range, financially unconstrained planning document. Funding for these projects will not be limited to the OCTA Call for Projects. It will be the responsibility of each implementing agency to identify funding sources for the projects within their purview.

E. LOCAL REGULATIONS AND PLANS

GENERAL PLAN CIRCULATION ELEMENT

The Circulation Element addresses the movement of people and goods throughout the City of San Clemente's transportation network. The Circulation Element for the existing General Plan was updated and adopted by the City Council in 2001. The Circulation Element evaluates transportation circulation needs within the city and recommends circulation improvements that will accommodate the future demand for transportation service generated by the Land Use Element of the General Plan.

TRAFFIC SIGNAL SYNCHRONIZATION

In 2010, the City of San Clemente adopted a Local Signal Synchronization Plan and accompanying Resolution consistent with OCTA's Regional Traffic Signal Synchronization Program (RTSSP) that made the City eligible for M2's Project P funding. As part of the Plan, Avenida Pico, El Camino Real, Camino De Los Marles, and Avendia Vista Hermosa are identified for needed signal synchronization. The City has also recently submitted grant applications for signal synchronizations on Avenida La Pata, between Calle Amanecer and Calle Salude, and on Avenida Talega, between Avenida Vista Hermosa and Camino Viento Fuerte East.

CAPITAL IMPROVEMENT PROGRAM

The *City of San Clemente's Capital Improvement Program (CIP)* is a multi-year planning instrument that drives the evaluation and identification of capital infrastructure projects in need of renovation, repair, and/or construction. Capital projects range from road maintenance or construction to the renovation of municipal buildings, recreation centers, and ball fields, to water main and sewer repairs. The CIP relates these projected capital needs to the financial resources that will support their realization and the timeframe in which both the financing and work will take place.

The FY 2012 budget includes 25 capital improvement projects for $10.1 million and 22 maintenance projects in the amount of $5.0 million. The following funds account for street activities and capital

improvements: General Fund; Community Development Block Grant (CDBG), Gas Tax Fund; Regional Circulation Financing and Phasing Program (RCFPP) Fund; Street Improvement Fund.

SPECIFIC PLANS

The City of San Clemente has adopted specific plans for various areas within the City boundary. They are the Marblehead Inland Master Plan (1991), Pier Bowl Specific Plan (1993), West Pico Corridor Specific Plan (1997), Forster Ranch Specific Plan (1998), Rancho San Clemente Specific Plan (1998), Talega Specific Plan (2003), and Marblehead Coastal Specific Plan (first adopted in 1998, first amendment adopted in 2007).

III. LEVEL OF SERVICE POLICY OPTIONS

A. 1993 SAN CLEMENTE GENERAL PLAN ("CURRENT") POLICY

The City's LOS Policy, as stated in the Current General Plan is as follows:

> 4.3.1- Maintain a city-wide level of service (LOS) not exceeding LOS "D" for intersections during the peak hours, with the exception of the intersection of the I-5 southbound ramps at Avenida Pico, unless the City determines an exception is warranted on an interim basis in accordance with the adopted "exception process" specified in the Growth Management Element (I 4.2).
>
> 4.3.2 - Maintain a city-wide level of service (LOS) for links not to exceed LOS "C" for Primary arterials, Secondary arterials and Local streets; not to exceed LOS "D" for Major arterials; and not to exceed LOS "E" for Commercial facilities (I 4.2).

B. LOS POLICY EXAMPLES IN ORANGE COUNTY

Other jurisdictions in Orange County typically apply traditional automotive-based LOS thresholds, which determine LOS through the Intersection Capacity Utilization (ICU) methodology. The ICU methodology relies upon a series of calculations based on the intersection configuration (capacity) and the peak hour intersection volumes to calculate an ICU ratio. This ratio ranges from 0 to 1.0 with 1.0 indicative of LOS F conditions.

Some sample LOS policy language taken from other cities in Orange County include:

1) Various LOS policy standards have been established to evaluate observed traffic conditions, future development plans, and circulation system modifications. At the local level, the City of Aliso Viejo has established LOS C (V/C ratio less than or equal to 0.80) as the lowest acceptable level of service. (City of Aliso Viejo General Plan, 2003)

2) Level of Service (LOS) E shall be considered acceptable for links and intersections in accordance with the City's General Plan Objective B-1 and as approved in the Level of Service E Policy for the Northern Sphere Area developments. LOS D shall be considered acceptable for all other areas of the City. For existing and future conditions, Levels of Service at intersections shall be calculated using the Intersection Capacity Utilization (ICU) method. (City of Irvine Traffic Study Guidelines, 2004).

3) In traffic studies, the Intersection Capacity Utilization (ICU) method is often used to analyze intersection operating conditions by calculating a volume-to capacity ratio (V/C) for each movement during a traffic signal phase. The V/C ratio is the ratio of existing or projected traffic volumes to an intersection's design capacity. The V/C ratio represents the percentage of the capacity utilized. For example, a V/C ratio of 0.90 for an intersection means that the traffic volumes at the intersection represent that 90 percent of its design capacity is being used. This Circulation Element establishes that the LOS should be LOS D or better for major intersections in the City. The Congestion Management Program (CMP) establishes that the LOS should be LOS E or better for CMP roadways and intersections (City of Anaheim General Plan, 2004).

4) The City of Newport Beach has traditionally set LOS "D" as its goal for intersection performance, whenever possible. At the same time, the City has recognized that achieving this goal in every case would require a circulation system with oversized elements to accommodate summer beach traffic or regional through traffic. The City has chosen to provide a circulation system that is sized to meet the needs of residents and local businesses and respects the character of Newport Beach. This Circulation Element continues that longstanding practice. The vast majority of intersections in Newport Beach will continue to function at or better than LOS "D" with implementation of the improvements included in this Element, and policy establishes LOS "D" as the standard for most intersections. LOS"E" is the established standard for a limited number of intersections discussed below. (City of Newport Beach General Plan, 2006).

An alternative approach was taken by the City of Fullerton, which completed an update of their General Plan in 2012. The Fullerton Plan has no specific LOS language in the document and includes the following policy:

> Support programs, policies and regulations to analyze and evaluate urban streets using an integrated approach from the points of view of automobile drivers, transit passengers, bicyclists and pedestrians rather than auto-centric thresholds which conflict with other policies of The Fullerton Plan – including better environments for walking and bicycling, safer streets, increased transit use, cost-effective infrastructure investments, reduced greenhouse gas emissions, and the preservation of open space (The Fullerton Plan, 2012).

Our experience in the City of Fullerton is that while the General Plan contains the above language, the City continues to implement standard ICU approaches and there is little tangible difference in how traffic studies are prepared.

There are also General Plan updates currently underway in other Cities in Orange County including Santa Ana and Los Alamitos, though there are no publicly available policy documents that we can cite to provide examples of LOS policies and approaches.

Much of the consistency towards LOS in Orange County likely derives from the Orange County Transportation Authority (OCTA) Congestion Management Program (CMP) which sets LOS thresholds for regional roadways and intersections. Some key elements of the CMP include:

1) Setting LOS E as the threshold for locations which are included in the CMP

2) Establishing the ICU methodology as the mechanism to evaluate LOS for CMP facilities

3) Requiring that Cities evaluate the impacts of development projects on CMP facilities within their jurisdictional boundaries

It should be noted that there are no CMP roadways and intersections within San Clemente, so the requirements above do not apply to the City. Given that, the City has the ability to define its own LOS approach and thresholds without the CMP acting as a constraint.

C. POTENTIAL OPTIONS FOR SAN CLEMENTE

Given the experience of other cities, there are four options open to San Clemente in terms of LOS policies and approaches.

OPTION #1- MAINTAIN STATUS QUO

Under this approach, the City would analyze LOS as it has typically done, using the same policies as are currently in place. This approach has the advantage of being easy to implement since there is a clearly defined threshold and requires limited inputs such as the traffic volumes and the road configuration information, such as the presence or absence of traffic signals, the number of lanes, and other similar details. This approach also has the advantage of providing results which are consistent with previous studies.

The limitation of this approach is that it tends to produce automotive-centric improvements. General Plans, by their nature, are intended to be self-mitigating in that the roadway network and intersections should be configured to accommodate the level of traffic associated with the General Plan. It would be difficult to justify non-automotive improvements since it is important to create a nexus or linkage

between the impact and mitigation. As a policy, the City could implement non-automotive improvements where desired but could not necessarily treat them as mitigating impacts.

OPTION #2- MODIFIED CITY OF SAN CLEMENTE LOS APPROACH

Under this second option, the City would retain automotive LOS standards but consider modifying their approaches and methodologies. Potential modifications include:

1) Allowing worse than LOS D conditions at freeway locations, selected corridors (i.e. El Camino Real), or other desired locations

2) Removing roadway segments from the analysis

3) Changing the way LOS is calculated from ICU to 2000 Highway Capacity Manual (HCM)

The advantage of this approach for the City can tailor its LOS policy to be reflective of policy choices or specific conditions that occur at various locations. The main effect of these changes would be to require fewer improvements at locations throughout the City, based on our experience working with other jurisdictions.

As an example, the City could allow LOS E or even LOS F conditions at intersections near I-5. In the context of the General Plan, the City would have to construct fewer improvements based on the technical analysis prepared for the Circulation Element. Our preliminary analysis indicates that there are four intersections near I-5 which may operate at worse than LOS D under one or more of the General Plan Buildout scenarios. One of these locations (I-5/Pico) is current allowed to operate at LOS E based on the Existing General Plan.

A more significant departure for the City would be to limit application of roadway segment LOS. Our experience has been that roadway segment LOS often provides misleading information in that it applies a generalized roadway capacity to roadways which often have different operational characteristics. Congestion often occurs at intersections, not along mid-block segments. Our experience has been that roadway segment LOS approaches will sometimes indicate that it is necessary to widen a roadway when there are no operational issues. Alternatively, adding capacity to a roadway can often be done effectively just by providing additional capacity at key intersections, instead of widening the roadway consistently throughout.

Regardless of the actual approach taken by the City, the likely result will be to identify automotive-centric improvements, though at a reduced level based on an analysis conducted to date. As an example,

removing the need to analyze roadway segment LOS will limit the need to widen entire roadway segments and direct the focus of improvements towards intersections. Similar to approach #1, it would be problematic to allow non-motorized improvements to serve as mitigation for impacts associated with either the General Plan or individual development projects with this approach as described.

OPTION #3- LOS EXEMPT LOCATIONS

Prior to developing multi-modal LOS approaches, some cities experimented with ways to exclude certain locations from LOS calculations. One example is the City of San Jose where selected locations within the downtown and along selected transit corridors were designated as "protected intersections." This policy was enacted in 2005, prior to the development of MMLOS approaches. Some key elements of this approach include:

1) A traditional traffic study is first completed. If the intersection improvements identified cannot be implemented, then alternative mitigation is identified.

2) There is no attempt to quantify or identify the benefit associated with the improvement. The multi-modal improvements are allowed as replacements for automotive improvements. As an example, a new bus stop might be identified at a deficient location or a bike lane addition based on previous studies. This approach is different from MMLOS which attempts to quantify the overall intersection level of improvement based.

There are a limited number of cities which have taken this approach to LOS. No City in Orange County or elsewhere in Southern California has taken this approach to our knowledge.

Implementing this type of approach is also supported by a change in the guidelines for the California Environmental Quality Act (CEQA) Checklist, which includes a series of questions intended to address whether a project creates a significant impact or not. Prior to a recent update, this checklist contained the note that a significant impact related to traffic could occur if the Project in question:

> Cause[d] an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

This language was revised to indicate that a significant traffic impact could occur if the Project in question:

> Conflict[ed] 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.

Given this change to the CEQA Guidelines and experience with other cities, this approach could be implemented by the City. The challenge for the City would be to ensure that the approach is applied in a consistent fashion across projects. One significant problem for the City would be to identify the alternative mitigation measures in a way that is consistent across all projects. One potential criticism of this approach is that it may lack certainty for potential applicants, who may not know if they will be required to construct capacity related improvements or alternative mode improvements or both.

OPTION #4- MULTI-MODAL LEVEL OF SERVICE (MMLOS)

One reason why cities have limited the application of the LOS exempt locations is the trend towards MMLOS, which evaluates impacts to vehicles, transit, bicycles, and pedestrians. Unlike San Jose's protected intersection approach, MMLOS quantifies the benefits of both automotive and non-automotive improvements.

MMLOS was initially developed in Fort Collins, Colorado. The Fort Collins MMLOS approach calculates LOS for auto, transit, bicycles, and pedestrians separately. Since this initial attempt to calculate LOS for all modes of travel, additional research has been conducted to address MMLOS including:

1) 2010 Highway Capacity Manual (2010 HCM)

The 2010 HCM combines vehicular LOS approaches with separate LOS calculations for automobiles, transit, bicycles, and pedestrians. Automotive LOS is calculated similarly to the 2000 HCM by incorporating data such as the volume lane configurations, and traffic signal phasing is all entered into the calculations. Transit LOS is calculated based on factors such as transit travel time, transit amenities (bus stops, shelters, etc), and intersection delay as it affects transit vehicles. Bicycle LOS is evaluated based on the presences or absence of bicycle facilities, pavement condition, speed limit, and volume of autos. Pedestrian LOS evaluates the size of available pedestrian facilities, the speed and volume of autos, and the presence of buffering measures such as landscaping, parking, etc. The 2010 HCM is one of the most comprehensive approaches to MMLOS that is currently available. Theoretically, it should provide an ideal methodology for the City to implement.

Unfortunately, there are two significant limitations which would limit its applicability to the City of San Clemente. The first limitation is the amount of data which has to be collected for each analysis location. As an example, instead of just collecting traffic counts, transit, bicycle, and pedestrian counts are required in

addition to the vehicular counts which are typically required. However, the most problematic issue with the 2010 HCM is the lack of sensitivity within 2010 HCM as it relates alternative mode improvements. We conducted extensive sensitivity testing of this methodology and determined that the current version of the 2010 HCM produced inconsistent results. For example, we found that under certain circumstances, removing a sidewalk did not change the pedestrian LOS. A PowerPoint presentation outlining the results of our sensitivity testing is provided as Appendix 3-1. A technical paper which was submitted to the Transportation Research Board (TRB) documenting additional sensitivity testing of MMLOS is provided as Appendix 3-2.

2) Person Delay

Another approach to estimate MMLOS is person delay, which calculates the delay for each mode of travel. The benefits of various improvements can then be compared against each other. Person delay is often implemented through a micro-simulation model, such as VISSIM, which can report seconds of delay by mode.

The main limitation with the person delay approach is that it requires the development of a detailed traffic operations model. Because of this requirement, person delay has generally been implemented only in a corridor or for a particular intersection. For example, the City of San Francisco implemented the person delay approach to test a potential Bus Rapid Transit (BRT) line along Van Ness Avenue. To implement a comprehensive person delay approach throughout a City would require the development of a comprehensive traffic operations model, which is cost prohibitive for many cities.

3) Pedestrian Environmental Quality Index (PEQI)

The PEQI approach was developed by the San Francisco Public Health Department and considers 30 variables related to the pedestrian environment. Variables range from type of crosswalks (striped, unmarked, etc) to the presence or absence of graffiti. This methodology measures both the actual environment and the perception of the environment. One advantage of the PEQI approach is that the methodology is accessible to the general public. For example, UCLA provided the PEQI approach to several community groups in Los Angeles to allow them to inventory their neighborhoods and identify deficient aspects of the pedestrian environment.

One negative aspect of PEQI is that it is generally geared towards describing the existing environment since it is ultimately a rating system of how pedestrian conditions currently exist. As such, its application is most applicable in instances in which a community wants to better understand the current conditions for pedestrians. Extrapolating this approach to forecast future conditions could be potentially

problematic. Additionally, it is unclear as to how this approach might be used for an impact analysis such as what might be required under CEQA.

Additional information regarding these methodologies and others can be found at the following website:

http://asap.fehrandpeers.net/tools/complete-streetslayered-networks/mmlos-toolkit/

D. RECOMMENDATIONS

Based on the information above, we would offer two main recommendations. The first relates to the LOS Policy that the City should adopt in the General Plan and the second relates to the implementation of MMLOS approaches.

RECOMMENDATION #1- LOS POLICY RECOMMENDATION

We are recommending that the City modify its current LOS policy so that two changes are made:

1) The City should allow LOS E operations at several additional intersections near I-5, as indicated by the analysis completed in Chapter V. Instead of one intersection where LOS E conditions are currently allowed, we are recommending that the City change its policy to allow LOS E conditions at the following locations:
   a) Southbound ramps at Camino De Estrella
   b) Northbound Ramps at Avenida Vista Hermosa
   c) Northbound Ramps at Avenida Pico
   d) Southbound Ramps at Avenida Pico

One reason for this change is that there is a marginal difference between LOS D and E in terms of driver experience. While LOS F conditions are often readily apparent, an LOS E location is often indistinguishable from LOS D for many drivers.

A second reason for this change is that it minimizes improvements at several locations where a minor improvement, such as the addition of a turn lane, is no longer required to improve conditions to LOS D. For example, one of the locations which would operate at LOS E is the I-5 NB ramp at Avenida Vista Hermosa under the analysis with the Preferred General Plan. As such, this intersection will have to be widened if the City's current LOS policy is maintained. The trade-off is that the City allows this LOS E condition to occur for the peak hours (1-2 hours per day at most) instead of widening this intersection.

2) The second change to the City's LOS policy would be to remove the reference to roadway segment LOS. There are several compelling reasons for this change.
   a) Roadway segment LOS applies a general capacity to roadways which might have very similar operating characteristics. Our experience is that intersection delays are often the cause of deficient roadway operations, not the roadway itself. Most congestion on surface streets occurs at the intersections. Since the roadway segment approach does not consider the intersection characteristics, it often provides misleading results.

      An example of these misleading results is provided in Chapter V, which provides both roadway segment and intersection LOS results. In each scenario, the roadway segment LOS results are worse than the intersection LOS results. For example, the Current General Plan scenario has no intersection impacts yet has multiple roadway segment impacts. Maintaining the roadway segment LOS would require the City to identify the widening of these roadways including facilities such as El Camino Real, where widening would require significant amounts of right-of-way may be cost prohibitive.
   b) Since the implementation of roadway segment LOS would require widening several existing roadways, the City would be creating an environment which is more challenging for bicycles, pedestrians, and transit users. These roadway expansions would therefore be contrary to the policies in the Circulation Element related to these alternative travel modes.

RECOMMENDATION #2- MMLOS IMPLEMENTATION

Our research with different approaches to MMLOS, as documented previously, indicates that the methods which are currently available, are not suitable for use by the City at this time.

The one methodology which is closest to being used by the City is the 2010 HCM. This approach evaluates all modes of travel yet lacks the sensitivity to non-automotive improvements and can often provide misleading results. Given the level of investment by various research agencies and the transportation profession into the 2010 HCM, it is unlikely that this approach will be eliminated or supplanted. The most likely outcome is that the research that we and others have developed will be used over the near-term to tweak and modify this methodology at some point in the future.

Given the likelihood that the 2010 HCM will be improved in the future, we would recommend that the City take the following steps to prepare for implementation of 2010 HCM.

1) The City should include policy language in the Circulation Element which supports the implementation of MMLOS without specifying a particular methodology

2) The Circulation Element should also include an implementation action which directs the City to monitor MMLOS approaches including the 2010 HCM
3) The Circulation Element should also contain an implementation action which directs the City to develop traffic study guidelines which include language related to the following:
   i) Data collection for all modes of travel including automobiles, bicycles, pedestrians, and transit users
   ii) Traffic studies should begin to evaluate impacts to alternative travel modes qualitatively. For example, the discussion of mitigation measures should also discuss the impacts of these mitigations on other travel modes.

IV. FUTURE ROADWAY NETWORK AND STREET TYPES

Proposed as part of the General Plan Update effort are reclassifications of, and improvements of certain arterials throughout the City to accommodate projected circulation needs. Figure 1 shows the future roadway network of San Clemente. There are several classifications used to define the design and purpose of each arterial. Below is a list of a combination of classifications identified in OCTA's Master Plan of Arterial Highways (MPAH), the Model Design Manual of Living Streets (MDMLS), and the City of San Clemente Bicycle and Pedestrian Master Plan (BPMP).

Major Arterial – A Major arterial, also known as a Boulevard in the MDMLS, carries a large volume of regional through traffic not handled by the freeway system. The general cross-section consists of a six-lane divided (raised or painted) roadway, with a typical right of way width of 120 feet. The standard maximum feasible intersection for a Major arterial may consist of three through lanes, two left turn lanes and a dedicated right turn lane. An optional free right-turn lane may be allowed if warranted by traffic demand. A Major arterial is designed to accommodate approximately 45,000 vehicle trips per day at Level of Service 'C'. A typical cross section for Major arterials, and one emphasizing transit provided by OCTA are to the right.

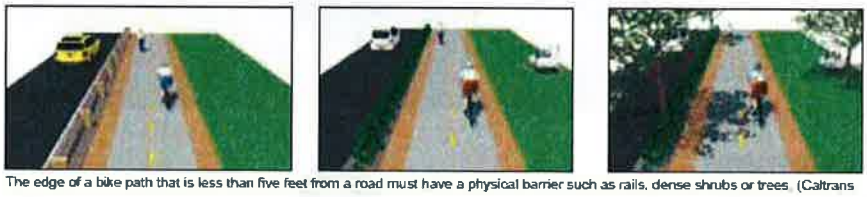
MAJOR
120FT
(6 LANES, DIVIDED)
VEHICLE EMPHASIS

MAJOR
120FT
(6 LANES, DIVIDED)
TRANSIT EMPHASIS

Within San Clemente, (1) Avenida Pico, between I-5 and the eastern City boundary and (2) Avenida La Pata, between Avenida Pico and the northern City boundary are Major arterials.

Typical bicycle facilities found on Major arterials are Bike Paths and Bike Lanes. Bike paths are typically 8 feet wide with 2 feet graded edges for two-way use. Bike lanes are typically a minimum of 5 feet wide when between a parking and travel lane, and a minimum of 4 feet wide if no gutter or parking is present. Typical design for these bike facilities are illustrated in the City BPMP, shown below.

Bike Path



The edge of a bike path that is less than five feet from a road must have a physical barrier such as rails, dense shrubs or trees. (Caltrans

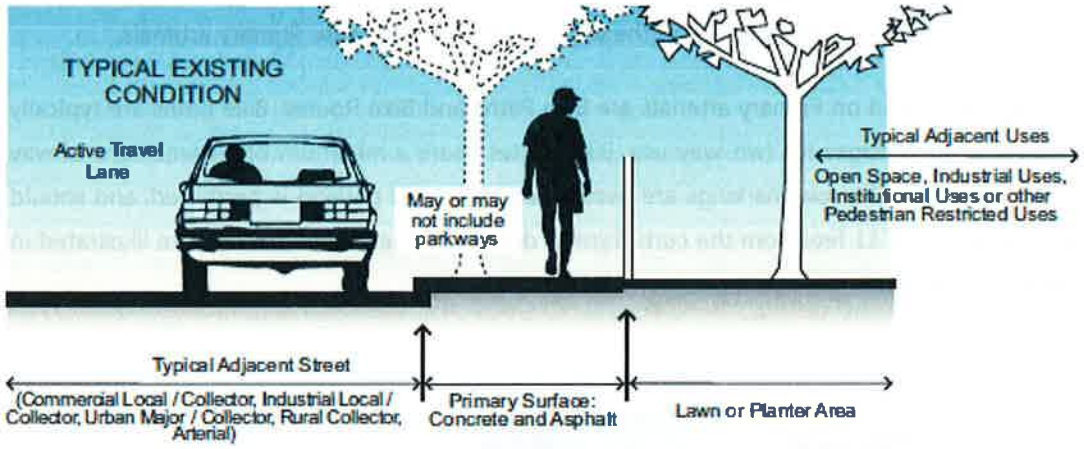
Bike Lane

Colored bike lanes enhance the visibility of cyclists on bike lanes the bike lanes themselves. Color can be applied to the entire bike lane or at high-risk locations where motorists are permitted to merge into or cross bike lanes. This application is not yet approved by the CA MUTCD.

Bike Lane Marking

Typical pedestrian facilities found on Major arterials are Connector Sidewalks. Connector Sidewalks are located along roads that support institutional, industrial, or business complexes with limited access and low pedestrian volumes. Connector Sidewalks can have wide widths, bicycle lanes, and enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

Connector Sidewalk



Bus pads and signs are also provided at bus stops on Major arterials, with the possibility of having bus pull-outs, proper lighting, canopies, and benches for patrons.

Primary Arterial – A Primary arterial, also known as an Avenue in the MDMLS, is similar to a Major arterial. The principal difference between the two classifications is capacity. The general cross-section consists of a four-lane divided (raised or painted median) roadway, with a typical right of way width of 100 feet. The standard maximum feasible intersection for a Primary arterial may consist of two through lanes, one left turn lane and a dedicated right turn lane. An additional left-turn lane or optional free right turn lane may be allowed if warranted by traffic demand. A Primary arterial is designed to accommodate approximately 30,000 vehicle trips per day at Level of Service 'C'. A typical cross section for Primary arterials, and one emphasizing bicycle use provided by OCTA are below.

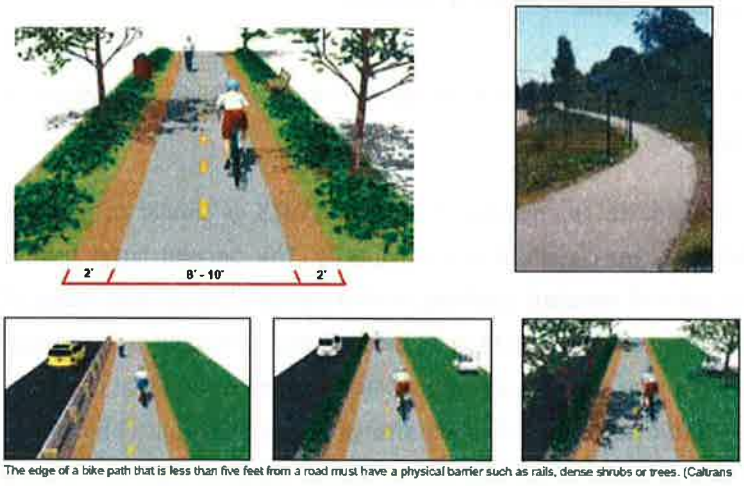
PRIMARY
100 FT
(4 LANES, DIVIDED)
VEHICLE EMPHASIS

PRIMARY
100 FT
(4 LANES, DIVIDED)
BICYCLE EMPHASIS

Within San Clemente, (1) Avenida Vista Hermosa, (2) Avendia La Pata, between Avenida Pico and the southern City boundary, (3) Camino De Los Mares, between Avenida Vaquero and the western City boundary, and (4) Avenida Pico, between I-5 and the western City boundary are Primary arterials.

Typical bicycle facilities found on Primary arterials are Bike Paths and Bike Routes. Bike paths are typically 8 feet wide with 2' graded edges for two-way use. Bike routes share a minimum of 14 feet right of way width with vehicular traffic. Sharrow markings are used where on-street parking is permitted, and should be located at a minimum of 11 feet from the curb. Typical design for these bike facilities are illustrated in the City BPMP, shown below.

Bike Path

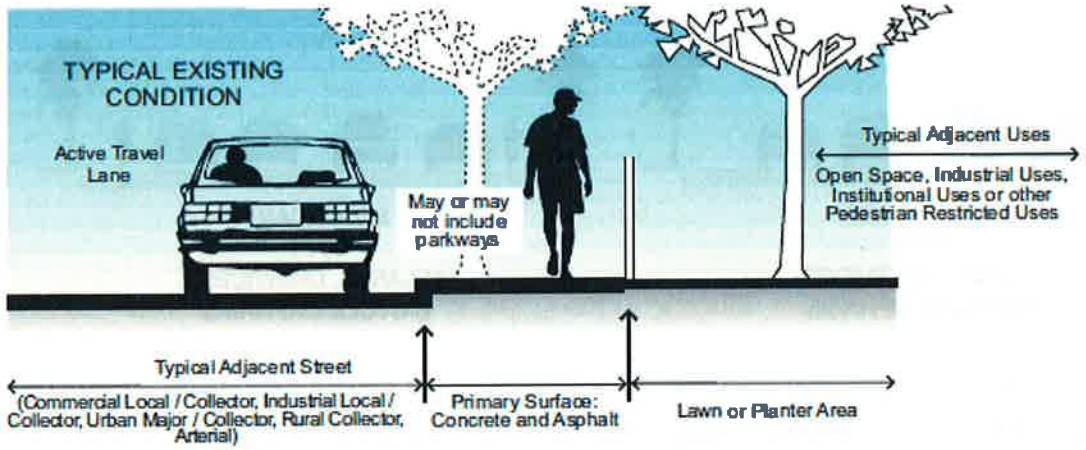


The edge of a bike path that is less than five feet from a road must have a physical barrier such as rails, dense shrubs or trees. (Caltrans

Bike Route

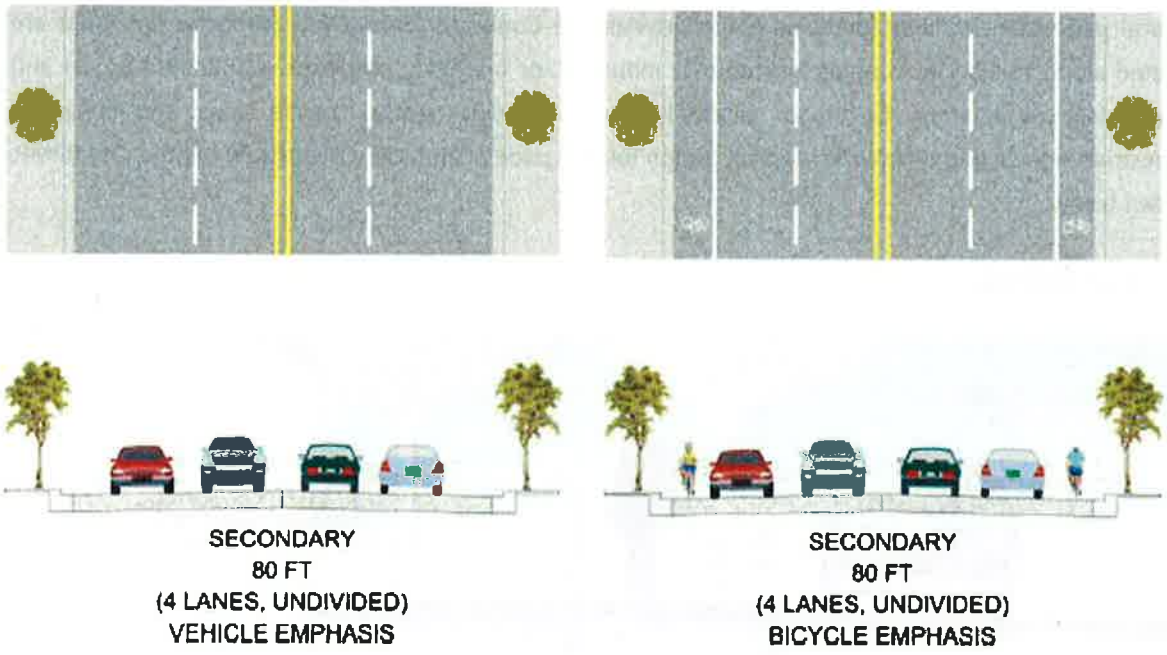
Typical pedestrian facilities found on Major arterials are Connector Sidewalks. Connector Sidewalks are located along roads that support institutional, industrial, or business complexes with limited access and low pedestrian volumes. Connector Sidewalks can have wide widths, bicycle lanes, and enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

Connector Sidewalk



Bus signs are also provided at bus stops on Primary arterials, with the possibility of having bus pads, bus pull-outs, proper lighting, canopies, and benches for patrons.

Secondary Arterial – A Secondary arterial, also known as a Street in the MDMLS, serves as a collector, distributing traffic between local streets and Principal, Major, and Primary arterials. Although some secondary arterials serve as through routes, most provide more direct access to surrounding land uses. The general cross-section consists of a four-lane undivided (no median) roadway, with a typical right of way width of 80 feet. The standard maximum feasible intersection for a Secondary arterial may consist of two through lanes, one left turn lane and an optional right-turn-only lane. An optional free right turn lane may be allowed if warranted by traffic demand. Alternative geometries or other special treatment may be considered for approval by OCTA if they are determined to be operationally equivalent to the standard maximum feasible intersection. A Secondary arterial is designed to accommodate approximately 20,000 vehicle trips per day at Level of Service 'C'. A typical cross section for Secondary arterials, and one emphasizing bicycle use provided by OCTA are below.



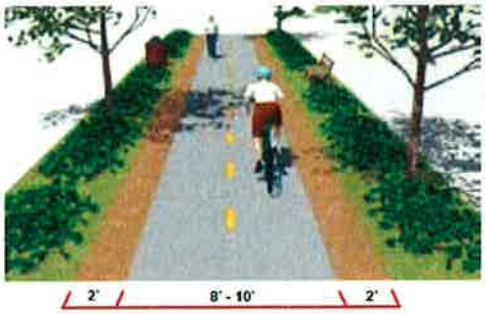
SECONDARY
80 FT
(4 LANES, UNDIVIDED)
VEHICLE EMPHASIS

SECONDARY
80 FT
(4 LANES, UNDIVIDED)
BICYCLE EMPHASIS

Within San Clemente, (1) Camino Del Los Mares, between the northern City boundary to the western City boundary (2) Camino Del Rio, between Camino Del Los Mares and Avenida La Pata (3) Camino Vera Cruz, between Camino Del Los Mares and Avenida Vista Hermosa (4) El Camino Real, between Camino Capistrano and the southern City boundary, (5) Avenida Talega, between Avenida Vista Hermosa and Camino Tierra Grande, (6) Camino Mira Costa, between Camino De Estrella and the western City boundary, (7) Avenida Vaquero, between Camino Del Los Mares and the western City boundary, and (8) Camino Capistrano, between Del Gado Road and El Camino Real are Secondary arterials.

Secondary arterials can range from having a combination of Bike Paths, Bike Lanes, and Bike Routes along the arterials. Bike paths are typically 8 feet wide with 2' graded edges for two-way use. Bike lanes are typically a minimum of 5 feet wide when between a parking and travel lane, and a minimum of 4 feet wide if no gutter or parking is present. Bike routes share a minimum of 14 feet right of way width with vehicular traffic. Sharrow markings are used where on-street parking is permitted, and should be located at a minimum of 11 feet from the curb. Typical design for these bike facilities are illustrated in the City BPMP, shown below.

Bike Path



The edge of a bike path that is less than five feet from a road must have a physical barrier such as rails, dense shrubs or trees. (Caltrans

Bike Lane

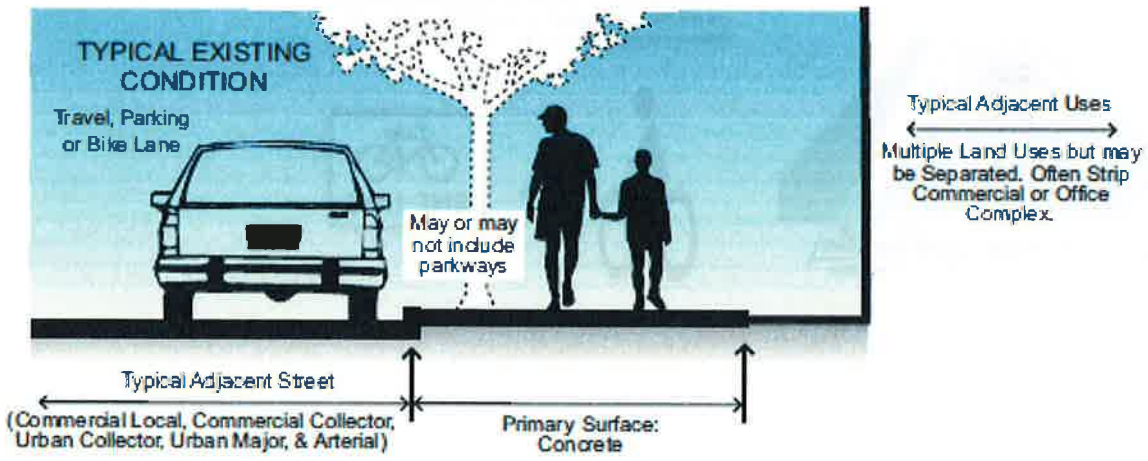
Colored bike lanes enhance the visibility of cyclists on bike lanes the bike lanes themselves. Color can be applied to the entire bike lane or at high-risk locations where motorists are permitted to merge into or cross bike lanes. This application is not yet approved by the CA MUTCD.

Bike Lane Marking

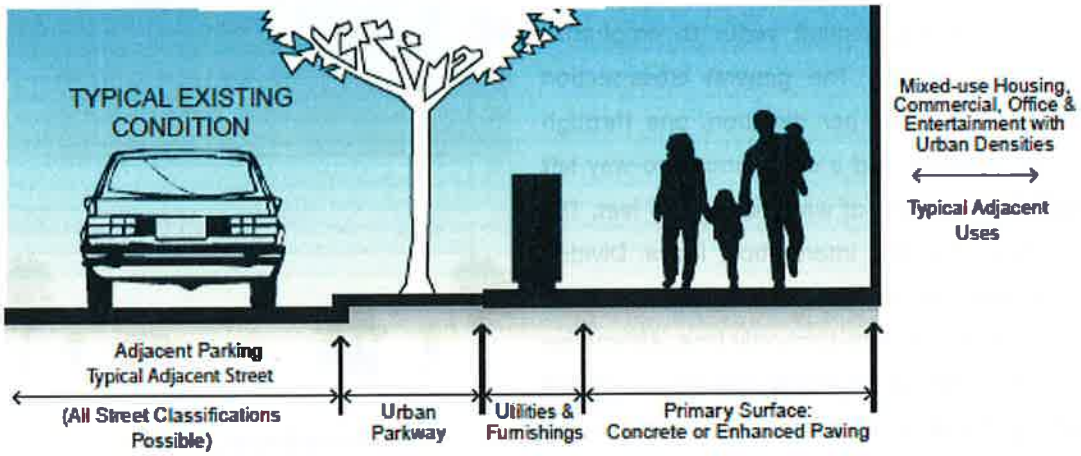
Bike Route

Typical pedestrian facilities found on Secondary arterials are District, Corridor, and Connector Sidewalks. District sidewalks are located along roads that support heavy pedestrian activity in mixed-use urban areas. Corridor Sidewalks are located along roads that support moderately dense businesses and shopping areas having moderate pedestrian traffic. Connector Sidewalks can have wide widths, bicycle lanes, and enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

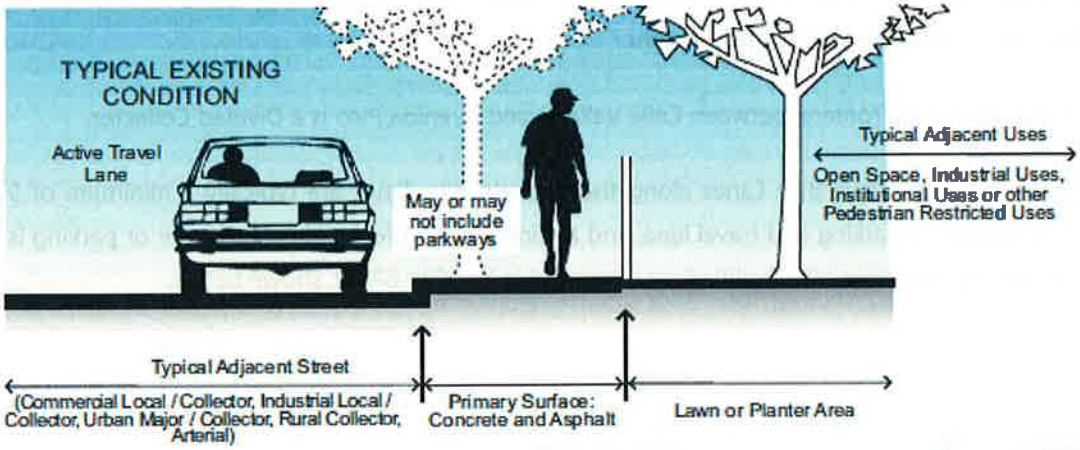
Corridor Sidewalk



District Sidewalk



Connector Sidewalk



Bus signs are also provided at bus stops on Secondary arterials, with the possibility of having bus pads, bus pull-outs, proper lighting, canopies, and benches for patrons.

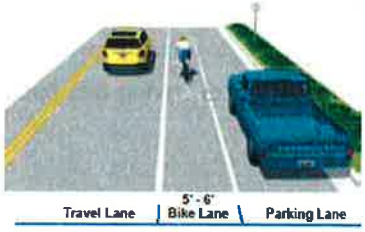
Divided Collector – A Divided Collector, also known as a Street in the MDMLS, is essentially a Secondary Arterial with the reallocation of pavement width to emphasize bicycle and pedestrian use. The general cross-section consists of one bicycle lane per direction, one through vehicle lane per direction, and a continuous two-way left turn lane, with a typical right of way width of 80 feet. The standard maximum feasible intersection for a Divided Collector arterial may consist of one through lane, one left turn lane, and an optional right-turn-only lane. Alternative geometrics or other special treatment may be considered for approval by OCTA if they are determined to be operationally equivalent to the standard maximum feasible intersection. A Divided Collector is designed to accommodate approximately 15,000 vehicles per day at Level of Service „C". A typical cross section for Divided Collectors provided by OCTA is to the right.

DIVIDED COLLECTOR
80 FT
(2 LANES, DIVIDED)

Within San Clemente, Calle Frontera, between Calle Vallarta and Avenida Pico is a Divided Collector.

Divided Collectors typically have Bike Lanes along the arterials. Bike lanes are typically a minimum of 5 feet wide when between a parking and travel lane, and a minimum of 4 feet wide if no gutter or parking is present. Typical design for these bike facilities are illustrated in the City BPMP, shown below.

Bike Lane

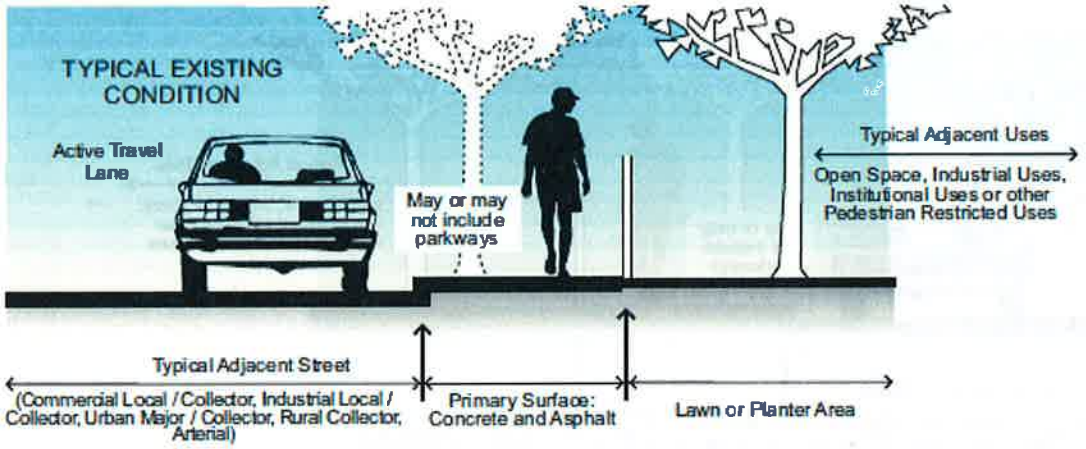


Colored bike lanes enhance the visibility of cyclists on bike lanes the bike lanes themselves. Color can be applied to the entire bike lane or at high-risk locations where motorists are permitted to merge into or cross bike lanes. This application is not yet approved by the CA MUTCD.

Bike Lane Marking

Typical pedestrian facilities found on Divided Collectors are Connector Sidewalks. Connector Sidewalks are located along roads that support institutional, industrial, or business complexes with limited access and low pedestrian volumes. Connector Sidewalks can have wide widths, bicycle lanes, and enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

Connector Sidewalk



Bus signs are also provided at bus stops on Divided Collectors, with the possibility of having proper lighting, canopies, and benches for patrons.

Undivided Collector – A, Undivided Collector, also known as a Street in the MDMLS, serves the connection of neighborhoods and handles through traffic movements between arterials on an undivided (no median) roadway. The general cross-section consists of two lanes undivided, with a typical right of way width of 56 feet. An Undivided Collector arterial is provided to accommodate up to approximately 10,000 vehicle trips per day at Level of Service 'C". A typical cross section for Undivided Collectors provided by OCTA is to the right.

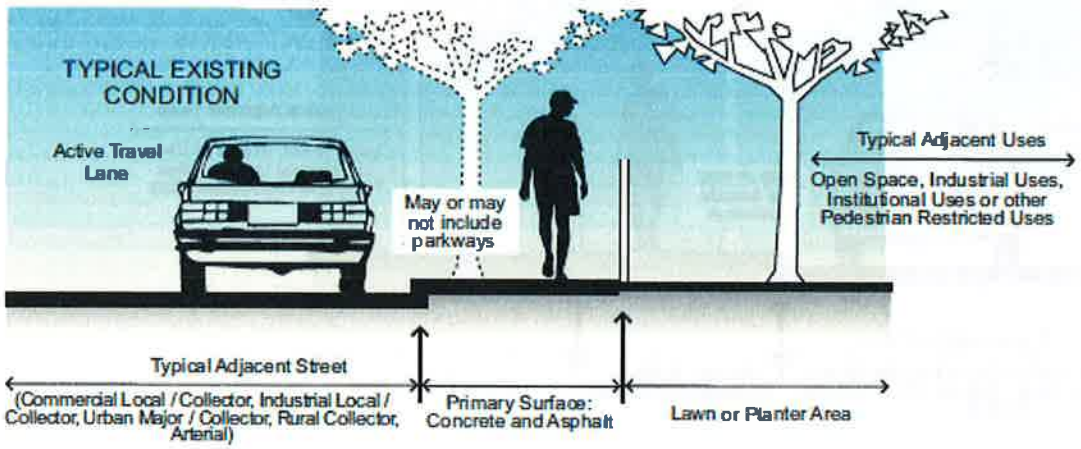
COLLECTOR
56 FT
(2 LANES, UNDIVIDED)

Examples of Undivided Collectors within San Clemente are (1) Calle Saluda, between Avenida La Pata and Avenida Talega, (2) Calle del Cerro, between Avenida Pico and Avenida La Pata, (3) Avenida Vista Montana, between Calle del Cerro South and Calle del Cerro North, (4) Calle Frontera/Avenida Presidio, and (5) Calle Amanecer, between

Avenida Pico and Avenida La Pata are Undivided Collectors.

Undivided Collectos typically do not have bicycle facilities. Typical pedestrian facilities found on Undivided Collectos are Connector Sidewalks. Connector Sidewalks can have wide widths, bicycle lanes, and enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

Connector Sidewalk



Bus signs are also provided at bus stops on Univided Collectors, with the possibility of having proper lighting, canopies, and benches for patrons.

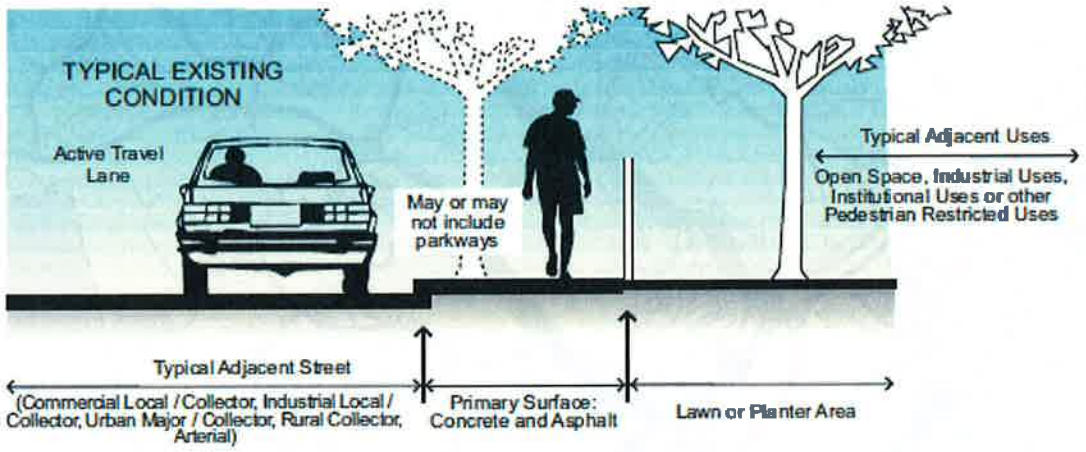
Local Residential – A Local Residential, also known as a Street in the MDMLS, is designed to provide access to residential areas and between individual parcels. The general cross-section consists of two lanes undivided (no median), with a typical right of way width of 60 feet. The standard maximum feasible intersection for a Local Collector arterial may consist of one through lane in each direction of travel. A Local Collector arterial is provided to accommodate up to approximately 10,000 vehicle trips per day at Level of Service 'C".

Examples of Local Residential roads within San Clemente are (1) Avenida De La Grulla, between Calle Sacramento and El Camino Real, (2) Avenue Oliva, between Avenida Vista Hermosa and Avendia Faceta, (3) Calle Heraldo, between Camino Vera Cruz and Via Blanco, (4) Calle Galleria, from Camino Lienzo to its dead end, and (5) Avenida Cordoba, between Calle Toledo and El Camino Real.

Local Residentials typically do not have bicycle facilities. Typical pedestrian facilities found on Undivided Collectors are Connector Sidewalks. Connector Sidewalks can have wide widths, bicycle lanes, and

enhanced pedestrian signals and crosswalks. Typical design for this pedestrian facility is illustrated in the City BPMP, shown below.

Connector Sidewalk



Bus signs are also provided at bus stops on Local Collectors, with the possibility of having proper lighting, canopies, and benches for patrons.

Source: OCTA Master Plan of Arterial Highways, KTU&A, Fehr & Peers

N

Not to Scale

FEHR & PEERS

N:\Jobs\Active\OC Jobs\OC10-0150_San_Clemente_GP\Graphics\GIS\MXD

FUTURE ROADWAY MAP

FIGURE 4-1

V. FUTURE LEVEL OF SERVICE CONDITONS

EXECUTIVE SUMMARY

The purpose of this chapter is to present the traffic operational analysis results of the proposed General Plan and identify any significant impacts associated with the proposed plan. Ten scenarios are evaluated, ranging from a combination of situations regarding the Current General Plan, the Preferred General Plan, the full completion of the Foothill Transportation Corridor (FTC), the partial completion of the FTC called the Tesoro Extension, and proposed road diets.

The FTC, also referred to as State Route 241 (SR-241) is proposed to be extended from its current terminus at Oso Parkway in Mission Viejo to Interstate 5 (I-5), just south of the San Diego and Orange County border. The extension spans 16 miles and would provide much needed relief to I-5. A partial construction of two lanes in each direction from Oso Parkway to Cow Camp Road, known as the Tesoro Extension, is planned for early 2013. No traffic model runs including the FTC extension south of Ortega Highway were conducted as part of this effort. Also stated in Chapter 1, an extension of Avenida La Pata in San Clemente is under final design to connect with La Pata Avenue, south of Ortega Highway in the City of San Juan Capistrano. The extension will be approximately two miles long and provide additional access to Avenida Vista Hermosa, Avenida Pico, and Ortega Highway. The existing La Pata Avenue section south of Ortega Highway will have two additional lanes of travel, totaling 5 travel lanes. The new extension connecting to Avenida La Pata will have four travel lanes. Design completion is expected by the end of 2012.

The Preferred General Plan proposes to allow for greater density development ranging from office to mixed-use development throughout the focus areas of the City. Allowing for greater density generates additional traffic to the circulation network. This could negatively affect the operations of intersections and roadway segments, especially at locations near these developments and along major routes of travel. Mixed-use development also results in additional traffic on the circulation network, but reduces that number by having the opportunity to make only one trip to visit multiple uses such as going to the supermarket and pet store or working and living in the same plaza. This evaluation also includes alternatives for the completion of the FTC. The FTC will positive affect congested corridors such as Avendia Pico and I-5 by providing an alternate route of travel to the rest of Orange County and the Inland Empire.

The scenarios evaluated in this chapter are as follows:

General Plan Conditions – Consists of alternatives for Year 2035 forecasts, with variations between General Plan designations and the implementation of the Foothill Transportation Corridor and road diets.

- Current General Plan, *No* FTC Conditions – Consists of Year 2035 forecasted traffic volumes per the current General Plan, without the implementation of the Foothill Transportation Corridor. The current General Plan refers to the policies and goals the City has currently adopted in planning for future growth.
- Current General Plan, *With* FTC Conditions – Consists of Year 2035 forecasted traffic volumes per the current General Plan, with the implementation of the Foothill Transportation Corridor.
- Preferred General Plan *No* FTC Conditions – Consists of Year 2035 forecasted traffic volumes per the preferred General Plan, without the implementation of the Foothill Transportation Corridor. The preferred General Plan refers to the proposed policies and goals being presented through this General Plan effort to be adopted as the new plan for future growth in the City.
- Preferred General Plan, *With* FTC Conditions – Consists of Year 2035 forecasted traffic volumes per the preferred General Plan, with the implementation of the Foothill Transportation Corridor.

General Plan With Road Diet Conditions – Consists of the Preferred General Plan With Foothill Transportation Corridor Conditions and the implementation of a variety of road diets due to the addition of bicycle lanes.

- Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1 – Consists of Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of a 2-lane road diet on Coast Highway (North El Camino Real), between Camino San Clemente and Avenida Estacion, and a 2-lane road diet on Camino Mira Costa, between Camino De Estrella and Camino Capistrano.
- Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2 – Consists of Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of a 2-lane road diet on Coast Highway (North El Camino Real and south El Camino Real), between Avenida Pico and Christianitos Road.
- Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 – Consists of Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of Road Diet Alternative 1 and Alternative 2.

General Plan With FTC Tesoro Extension Conditions – Consists of three scenarios analyzing operations under the completion of the partial extension of the FTC, the Tesoro Extension spanning from the Oso Parkway to Cow Camp Road and the implementation of Road Diet Alternative 2 due to the addition of bicycle lanes.

- Current General Plan, *With* FTC *Tesoro Extension* – Consists of Current General Plan Conditions with the implementation of only the FTC Tesoro Extension.

- Preferred General Plan, *With* FTC *Tesoro Extension* – Consists of Preferred General Plan Conditions with the implementation of only the FTC Tesoro Extension.
- Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2 – Consists of Preferred General Plan Conditions with the implementation of only the FTC Tesoro Extension.and the implementation of Road Diet Alternative 2.

The potential impacts of the General Plan scenarios to the circulation network were assessed for 36 intersections. All of the study intersections under each analysis scenario were evaluated using Current General Plan impact policies and Preferred General Plan impact policies to identify where significant impacts occur. Projected daily traffic volumes were developed for 40 roadway segments within the City.

There are two methodologies for which intersections are evaluated, using the Current General Plan Policy and using the Preferred General Plan Policy. The Current General Plan specifies that LOS D is the minimum acceptable LOS at an intersection. Therefore, intersections operating at LOS E and F are significantly impacted and must be mitigated to within allowable thresholds. Under the Preferred General Plan, it is proposed that an LOS D or better be maintained at all intersections not located at freeway ramps. The operations of intersections located at freeway ramps must be maintained at LOS E or better. Thefore, intersections located at freeway ramps operating at LOS F are significantly impacted and must be mitigated to within allowing thresholds.

Following are the resulting intersection impacts of each analyzed scenario during the AM (7-9 AM) and PM (4-6 PM) peak hours, also summarized in Table 5-1. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1. Future land use for the Preferred General Plan is shown on Figure 5-1.

SUMMARY OF FUTURE INTERSECTION IMPACTS

All of the study intersections operate at acceptable level of service (LOS) under Current General Plan, *No* FTC Conditions. The acceptable LOS within the City is LOS D or better.

All of the study intersections operate at acceptable level of service (LOS D) under Current General Plan, *With* FTC Conditions. The acceptable LOS within the City is LOS D or better.

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *No* FTC Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E under Preferred General Plan policy at locations intersecting freeway ramps.

1. Camino Del Rio and Avenida La Pata (AM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E at locations intersecting freeway ramps.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 1 Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E at locations intersecting freeway ramps.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 2 Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E at locations intersecting freeway ramps.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 3 Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E at locations intersecting freeway ramps.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Current General Plan, *With* FTC *Tesoro Extension* Conditions. The acceptable LOS within the City is LOS D or better.

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *Tesoro Extension* Conditions, with the exception of the following locations. This scenario allows for an acceptable LOS E under Preferred General Plan policy at locations intersecting freeway ramps.

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

All of the study intersections operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *Tesoro Extensio, And* Road Diet Alternative 3 Conditions, with the exception of the following

locations. This scenario allows for an acceptable LOS E under Preferred General Plan policy at locations intersecting freeway ramps.

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

SUMMARY OF FUTURE ROADWAY SEGMENT IMPACTS

Following are the resulting roadway segment impacts of each analyzed scenario on a daily basis, summarized in Table 5-2. Level of Service "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

All of the study roadway segments operate at acceptable level of service (LOS) under Current General Plan, *No* FTC Conditions, with the exception of the following locations.

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avenida Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
d. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
e. Avenida Pico, between Avenida Presidio and Calle del Cerro
f. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
g. Coast Highway, between Camino Capistrano Camino San Clemente
h. El Camino Real, between Camino San Clemente and Avenida Estacion
i. El Camino Real, between Avenida Estacion and Avenida Pico
j. El Camino Real, between Avenida Pico and Los Molinos
k. El Camino Real, between Los Molinos and Calle Las Bolas
l. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

All of the study roadway segments operate at acceptable level of service (LOS D) under Current General Plan, *With* FTC Conditions, with the exception of the following locations.

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Coast Highway, between Camino Capistrano and Camino San Clemente
c. El Camino Real, between Camino San Clemente and Avenida Estacion
d. El Camino Real, between Avenida Estacion and Avenida Pico
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *No* FTC Conditions, with the exception of the following locations.

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenida De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC Conditions, with the exception of the following locations.

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano and Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
k. El Camino Real, between Avenida De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 1 Conditions, with the exception of the following locations.

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenida Presidio and Calle del Cerro
e. El Camino Real, between Camino San Clemente and Avenida Estacion
f. El Camino Real, between Avenida Pico and Los Molinos
g. El Camino Real, between Los Molinos and Calle Las Bolas
h. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 2 Conditions, with the exception of the following locations.

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
k. El Camino Real, between Avenide De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal
m. El Camino Real, between El Portal and Canada
n. El Camino Real, between Canada and Escalones
o. El Camino Real, between Escalones and Mariposa

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *And* Road Diet Alternative 3 Conditions, with the exception of the following locations.

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
c. Avenida Pico, between Avenido Presidio and Calle del Cerro
d. El Camino Real, between Camino San Clemente and Avenida Estacion
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
h. El Camino Real, between Avenide De La Grulla and Avenida Aragon
i. El Camino Real, between Avenida Aragon and El Portal
j. El Camino Real, between El Portal and Canada
k. El Camino Real, between Canada and Escalones
l. El Camino Real, between Escalones and Mariposa

All of the study roadway segments operate at acceptable level of service (LOS) under Current General Plan, *With* FTC *Tesoro Extension* Conditions, with the exception of the following locations.

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
h. Coast Highway, between Camino Capistrano Camino San Clemente
i. El Camino Real, between Camino San Clemente and Avenida Estacion
j. El Camino Real, between Avenida Estacion and Avenida Pico
k. El Camino Real, between Avenida Pico and Los Molinos
l. El Camino Real, between Los Molinos and Calle Las Bolas

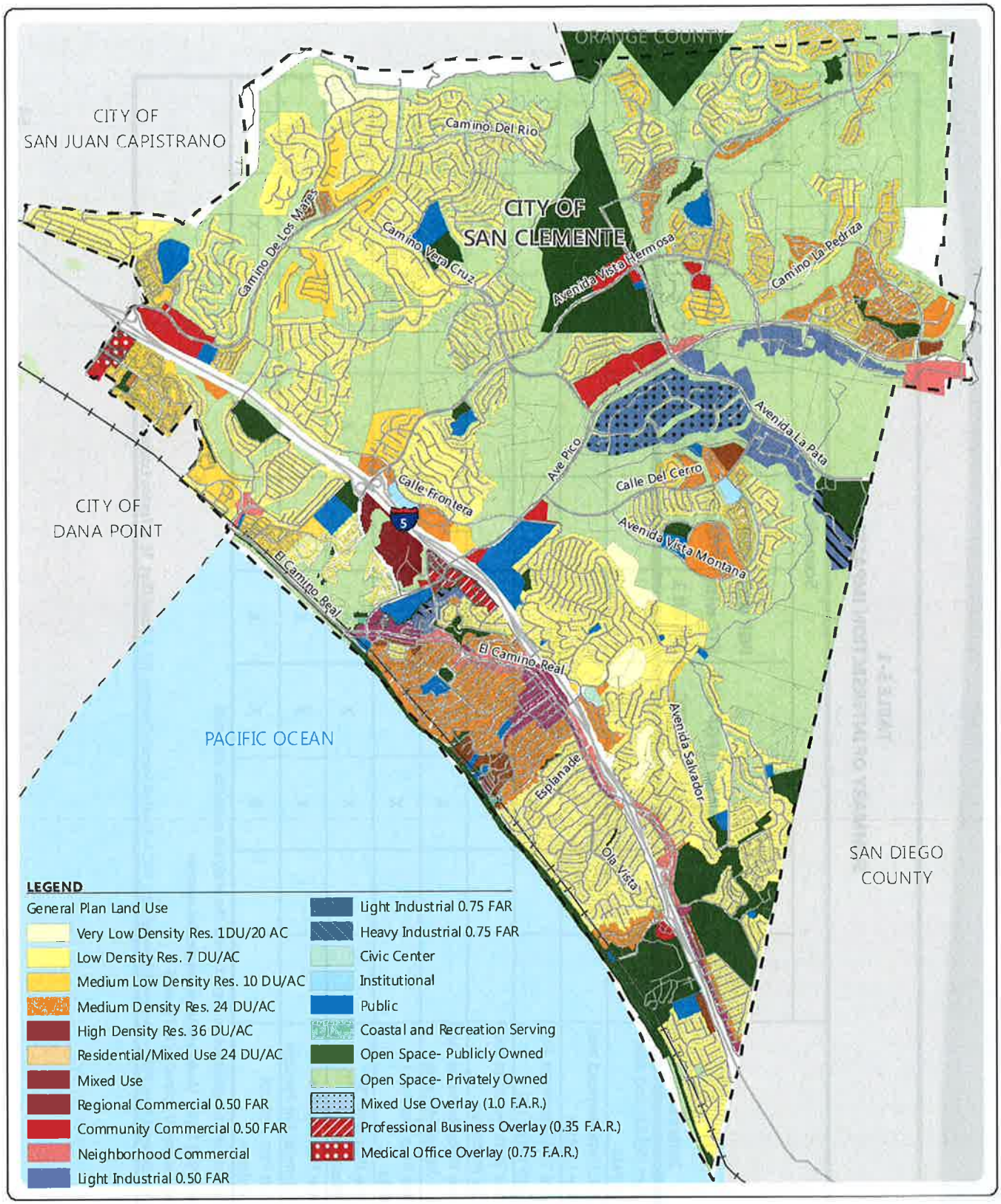
m. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *Tesoro Extension* Conditions, with the exception of the following locations.

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenide De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

All of the study roadway segments operate at acceptable level of service (LOS) under Preferred General Plan, *With* FTC *Tesoro Extensio*, *And* Road Diet Alternative 3 Conditions, with the exception of the following locations.

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. El Camino Real, between Camino San Clemente and Avenida Estacion
k. El Camino Real, between Avenida Estacion and Avenida Pico
l. El Camino Real, between Avenida Pico and Los Molinos
m. El Camino Real, between Los Molinos and Calle Las Bolas
n. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
o. El Camino Real, between Avenide De La Grulla and Avenida Aragon
p. El Camino Real, between Avenida Aragon and El Portal
q. El Camino Real, between El Portal and Canada
r. El Camino Real, between Canada and Escalones
s. El Camino Real, between Escalones and Mariposa



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LAND USE

FIGURE 5-1

TABLE 5-1
SUMMARY OF INTERSECTION IMPACTS

Model ID[1]	Figure 4-1 ID[2]	Intersection	Scenario[2]									
			CGP no FTC	CGP with FTC	PGP no FTC	PGP with FTC	PGP with FTC with RD Alt 1	PGP with FTC with RD Alt 2	PGP with FTC with RD Alt 3	CGP with FTC TE	PGP with FTC TE	PGP with FTC TE with RD Alt 2
21	1	Cam Del Rio and Ave La Pata			X						X	X
23	2	Ave Vista Hermosa and Ave La Pata			X						X	X
25	3	Ave Vista Hermosa and Cam Vera Cruz			X						X	X
26	4	Ave Vista Hermosa and Cle Frontera			X						X	X
27	5	Ave Vista Hermosa and I-5 NB on/off ramp			X						X	X
35	6	Ave Pico and Ave La Pata			X						X	X
38	7	Ave Pico and Cle Amanecer			X	X	X	X	X		X	X
42	8	Ave Pico and Cle Frontera/Ave Presidio			X	X	X	X	X		X	X
45	9	Ave Pico and Los Molinos			X	X	X	X	X		X	X

Note: Only intersections which experience an impact under the analyzed scenarios are listed.

1. San Clemente 2035 Traffic Model assigned intersection number
2. Intersections numbered according to Figure 4-1
3. CGP = Current General Plan, PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet, TE = Tesoro Extension

TABLE 5-2
SUMMARY OF ROADWAY SEGMENT IMPACTS

Roadway Segment	Scenario[1]									
	CGP no FTC	CGP with FTC	PGP no FTC	PGP with FTC	PGP with FTC and RD Alt 1	PGP with FTC and RD Alt 2	PGP with FTC and RD Alt 3	CGP with FTC TE	PGP with FTC TE	PGP with FTC TE with RD Alt 2
Avendia Vista Hermosa, between Calle Frontera and Via Turqueza	X		X	X	X	X		X	X	X
Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz	X		X					X	X	X
Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata			X					X	X	X
Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino	X	X	X	X	X	X	X	X	X	X
Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio	X		X	X	X	X	X	X	X	X
Avenida Pico, between Avenido Presidio and Calle del Cerro	X		X	X	X	X	X	X	X	X
Avenida Pico, between Calle del Cerro and Calle Amanecer			X						X	X
Avenida Pico, between Calle Amanecer and Camino Vera Cruz			X						X	X
Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa	X		X					X	X	X
Coast Highway, between Camino Capistrano and Camino San Clemente	X	X	X	X		X		X	X	

Note: Only roadway segments which experience an impact under the analyzed scenarios are listed.

1. CGP = Current General Plan, PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet, TE = Tesoro Extension

TABLE 5-2 CONT'D
SUMMARY OF ROADWAY SEGMENT IMPACTS

Roadway Segment	Scenario[1]									
	CGP no FTC	CGP with FTC	PGP no FTC	PGP with FTC	PGP with FTC and RD Alt 1	PGP with FTC and RD Alt 2	PGP with FTC and RD Alt 3	CGP with FTC TE	PGP with FTC TE	PGP with FTC TE with RD Alt 2
El Camino Real, between Camino San Clemente and Avenida Estacion	X	X	X	X	X	X	X	X	X	X
El Camino Real, between Avenida Estacion and Avenida Pico	X	X	X	X		X	X	X	X	X
El Camino Real, between Avenida Pico and Los Molinos	X	X	X	X	X	X	X	X	X	X
El Camino Real, between Los Molinos and Calle Las Bolas	X	X	X	X	X	X	X	X	X	X
El Camino Real, between Calle Las Bolas and Avenida De La Grulla	X	X	X	X	X	X	X	X	X	X
El Camino Real, between Avenida De La Grulla and Avenida Aragon			X	X		X	X		X	X
El Camino Real, between Avenida Aragon and El Portal			X	X		X	X		X	X
El Camino Real, between El Portal and Canada						X	X			X
El Camino Real, between Canada and Escalones						X	X			X
El Camino Real, between Escalones and Mariposa						X	X			X

Note: Only roadway segments which experience an impact under the analyzed scenarios are listed.

1. CGP = Current General Plan, PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet, TE = Tesoro Extension

ANALYSIS PARAMETERS

This chapter outlines the geographic scope of the traffic impact analysis, including the study intersections and roadways, and the analysis methodologies employed in this study.

PROJECT STUDY AREA

San Clemente is the southernmost city in Orange County. The City shares jurisdictional boundaries with the City of Dana Point to the north; San Juan Capistrano to the north-east; and County of San Diego to the south. Interstate 5 (I-5) runs through the City, providing a high level of regional accessibility to the City of San Clemente. San Clemente has a multi-modal transportation system consisting of highways, streets, pedestrian paths, and bikeways. Bus and rail services are provided by the Orange County Transportation Authority (OCTA), Amtrak, and Metrolink. The development of streets, rail, pedestrian and bike paths, and transit in San Clemente are key elements in the City's future social and economic well-being.

STUDY INTERSECTIONS

There are 36 major intersections within the City limits that have been analyzed by Stantec for General Plan Conditions. These intersections are those occurring on secondary arterials or higher designation based on the hierarchy of street types. The City of San Clemente has five street types: Major Arterial, Primary Arterial, Secondary, Local Collector, and Local Residential. The study area consists of only intersections occurring between major arterials, primary arterials, and secondary roads. Of the 36 key intersections, 33 are signalized and three are Side-Street-Stop-Controlled (SSSC). r.

3	Cam De Los Mares and Cam Del Rio
4	Cam De Los Mares and Cam Vera Cruz
7	Cam De Los Mares and Ave Vaquero
11	Cam Del Estrella and I-5 Northbound on/off ramp
12	Cam Del Estrella and I-5 Southbound on/off ramp
13	Cam De Estrella and Cam Mira Costa
21	Cam Del Rio and Ave La Pata (Future)[2]
23	Ave Vista Hermosa and Ave La Pata
25	Ave Vista Hermosa and Cam Vera Cruz
26	Ave Vista Hermosa and Cle Frontera
27	Ave Vista Hermosa and I-5 NB on/off ramp
28	Ave Vista Hermosa and I-5 SB on/off ramp
34	Ave Vista Hermosa and Ave Pico
35	Ave Pico and Ave La Pata
38	Ave Pico and Cle Amanecer
41	Ave Pico and Cle Del Cerro
42	Ave Pico and Cle Frontera/Ave Presidio
43	Ave Pico and I-5 Northbound on/off ramp
44	Ave Pico and I-5 Southbound on/off ramp
45	Ave Pico and Los Molinos
47	El Camino Real and Ave Pico
51	El Camino Real and El Portal
52	Ave Palizada and I-5 Northbound off ramp
53	Ave Palizada and I-5 Southbound on ramp
55	El Camino Real and Palizada
57	El Camino Real and Ave Del Mar
58	Ave Presidio and I-5 Northbound on ramp
59	Ave Presidio and I-5 Southbound on/off ramp
61	El Camino Real and Ave Victoria/Avenida Presidio
63	El Camino Real and/I-5 Southbound on/off ramp
64	El Camino Real and I-5 Northbound off ramp
65	El Camino Real and Ave San Juan
67	El Camino Real and San Gabriel
76	Cam Vera Cruz and Ave Pico
87	Ave Vista Hermosa and Ave Talega
94	El Camino Real and Cam San Clemente

STUDY ROADWAY SEGMENTS

Within the City, daily traffic volumes are projected for the following 40 roadway segments, based on a review of the roadway network, traffic circulation, traffic counts, and the traffic model:

ROADWAY	SEGMENT	
	FROM	TO
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera
	Calle Frontera	Via Turqueza
	Via Turqueza	Camino Vera Cruz
	Camino Vera Cruz	Avenida La Pata
	Avenida La Pata	Avenida Talega
	Avenida Talega	Camino La Pedriza
	Camino La Pedriza	Avenida Pico
Camino de Los Mares	Camino El Molino	Calle Agua
	Calle Agua	Avenida Vaquero
	Avenida Vaquero	Calle Nuevo
	Calle Nuevo	Portico del Sur
	Portico del Sur	Camino Vera Cruz
	Camino Vera Crua	Camino del Rio
	Camino del Rio	Portico del Norte

ROADWAY	SEGMENT	
	FROM	TO
Camino De Estrella	Camino Capistrano	Camino Mira Costa
	Camino Mira Costa	I-5 SB on/off ramp
	I-5 NB on/off ramp	Camino El Molino
Avenida Pico	El Camino Real	I-5 NB on/off ramp
	I-5 NB on/off ramp	Avenida Presido
	Avenida Presido	Calle del Cerro
	Calle del Cerro	Calle Amanecer
	Calle Amanecer	Camino Vera Cruz
	Camino Vera Cruz	Avenida La Pata
	Avenida La Pata	Avenida Vista Hermosa
	Avenida Vista Hermosa	Camino La Pedriza
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa
	Avenida Vista Hermosa	Avenida Pico
	Avenida Pico	Calle Amanecer
	Calle Amanecer	Calle del Cerro
Coast Hwy	Camino Capistrano	Camino San Clemente
El Camino Real	Camino San Clemente	Avenida Estacion
	Avenida Estacion	Avenida Pico
	Avenida Pico	Los Molinos
	Los Molinos	Calle Las Bolas
	Calle Las Bolas	Avenida De La Grulla
	Avenida De La Grulla	Avenida Aragon
	Avenida Aragon	El Portal
	El Portal	Canada
	Canada	Escalones
	Escalones	Mariposa

FUTURE FORECASTING

A series of models were developed by Stantec to forecast traffic volumes throughout the City under different scenarios. For the San Clemente General Plan, models were run for Current General Plan and Preferred General Plan conditions, *with* and *without* the implementation of the FTC extension. Additional model runs were conducted to evaluate road diets proposed on Coast Highway/El Camino Real and Camino Mira Costa. Additional models were also run for the partial FTC extension, the Tesoro Extension. Modeling is typically a four-step process consisting of trip generation, trip distribution, mode choice, and trip assignment. Trip generation represents the number of trips land uses produce. Trip distribution refers to general allocation of these trips. Mode choice is the type of vehicle, whether it be by car, bus, bicycling, or walking people will choose to travel by. Trip assignment is the route people will take to arrive at their destination. The models also consist of three key components:

- Input data – The input data are files that represent different aspects of the City's road system, land use, and travel characteristics.
- Model steps – The model steps are the mathematical calculations that the model completes in determining traffic flows. These steps are performed by model batch scripts.
- Model outputs – The model outputs are data files produced by the model, and some are inputs to other steps in the model.

The models were designed for the City of San Clemente to predict traveler behavior under varying scenarios for operational analysis. For example, the extension of the FTC between Mission Viejo and San Diego would cause a redistribution of traffic from I-5 and subsequent arterials to routes leading to the extension since it would provide commuters an additional travelling alternative between San Diego/Orange County and Riverside/Inland Empire. The proposed road diets due to the implementation of bike lanes in San Clemente will also cause vehicular traffic to either redirect to other parallel routes, or cause a decrease in vehicular traffic since an alternative mode of travelling is provided. The model would also predict traffic congestion at these locations and redirect commuters to take bus transit, bike, or walk as well. The scale of this redistribution is checked and verified for reasonableness and likelihood of the environment to make these changes and any necessary edits are implemented to reflect realistic changes. The models have an assigned capacity limit for travelling lanes on arterials. For instance, a major arterial could have a capacity of 1,600 vehicles per hour per lane (vphpl) whereas a secondary arterial could have a capacity of 1,000 vphpl. Once this capacity is reached on an arterial, the model begins to redirect traffic to other routes or to use alternative modes of travel within reasonable levels. Congestion will still be seen on these arterials, but other areas will also be affected by roadway changes.

Although model outputs provide a good indication of how a proposed scenario will affect traffic, there are limitations to how a model can accurately predict traffic patterns. Much scrutiny and tweaking needs to be

involved in calibrating a model to reflect true travel patterns of a city or region. Checking model outputs against local knowledge of typical travel behavior is an important element in model validation.

ANALYSIS METHODOLOGIES

The operational analysis included roadway segments, intersections, and freeway ramp junctions. Operations for these roadway facilities are expressed in terms of level of service. Level of service is a general measure of traffic operating conditions whereby a letter grade, from Level of Service (LOS) A (no congestion) to F (high levels of congestion), is assigned. LOS E represents "at capacity" operations.

The flow of vehicles without significant impediments is considered "stable" whereas when traffic encounters interference that limits the capacity acutely, the flow becomes "unstable". These grades represent the perspective of drivers only and are an indication of the comfort and convenience associated with driving, as well as speed, travel time, traffic interruptions, and freedom to maneuver.

INTERSECTION TRAFFIC OPERATIONS

As previously stated, the level of service was calculated by Stantec for study intersections in San Clemente's regional roadway system to evaluate General Plan traffic conditions. In conformance with the City's requirements, existing AM and PM peak hour operating conditions for the key signalized study intersections were evaluated using the Intersection Capacity Utilization (ICU) method. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU numerical value represents the percent signal (green) time, and thus capacity, required by existing and/or future traffic. It should be noted that the ICU methodology assumes uniform traffic distribution per intersection approach lane and optimal signal timing.

Per City of San Clemente requirements, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left turn, through, and right-turn lanes, and a dual left-turn capacity of 3,200 vph. The ICU value translates to a level of service (LOS) estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical volume to capacity ratios at an intersection; it is not intended to be indicative of the LOS of each of the individual turning movements. Descriptions of the LOS letter grades for signalized intersections, and the relationship between the various volume-to-capacity (V/C) ratios are provided in Table 5-3. Typically, the operations of unsignalized intersections are measured in delays of seconds. For the purposes of this report however, unsignalized intersection performance is measured by V/C ratio as well.

TABLE 5-3
INTERSECTION LOS CRITERA

Level of Service	Description	V/C Ratio
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	0.000-0.600
B	Operations with low delay occurring with good progression and/or short cycle lengths.	0.601-0.700
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	0.701-0.800
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	0.801-0.900
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	0.901-1.000
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	Over 1.000

Source: *Highway Capacity Manual* (Transportation Research Board, 2000).

Per the City of San Clemente requirements outlined under the Current General Plan, LOS D is the threshold for intersections. Under the Preferred General Plan, it is recommended that LOS D be the threshold for intersections not occurring at freeway ramp locations and LOS E be the threshold for intersections occurring at freeway ramp locations. For the purposes of this study, study intersections of every analysis scenario will be evaluated using the thresholds set forth under the Current General Plan and Preferred General Plan.

Therefore, any intersections operating at LOS E or F, regardless of whether they occur at freeway ramp locations are considered impacted under the Current General Plan policy whereas only intersection not occurring at freeway ramp locations operating at LOS E or F are considered impacted under the Preferred General Plan. Any freeway ramp intersections operating at LOS F are considered impacted. Below is a summarization of what constitutes a significant impact.

Using Current General Plan Policy:

Intersection performing at LOS E/F – Impact

Using Preferred General Plan Policy:

Intersection not located at freeway ramp performing at LOS E/F – Impact
Intersection located at freeway ramp performing at LOS F - Impact

Mitigation measures must bring the LOS operations of intersections to a minimum of LOS D or better.

ROADWAY SEGMENT TRAFFIC OPERATIONS

As previously stated, the level of service was calculated by Stantec for key roadway segments in San Clemente's regional roadway system to evaluate General Plan traffic conditions. Daily capacity thresholds in accordance with the City of San Clemente General Plan Circulation Element are shown in Table 5-4. This table establishes the maximum daily roadway capacities by street classifications. Each classification may have qualifiers which depict additional capacity needs for the type of land use being served. In general, a commercial designation implies a 10 percent increase in capacity, an augmented designation implies additional capacity equivalent to one lane on a roadway, and an augmented/commercial designation implies both.

TABLE 5-4
MAXIMUM DAILY ROADWAY CAPACITIES

Classification	Typical Lane Configuration	LOS C	LOS D	LOS E	Augmented LOS E	Commercial LOS E	Aug/Comm LOS E
Freeway (per lane)		16,500	18,500	20,500			
Major	6 Lanes Divided	45,000	50,600	56,300	65,700	61,900	72,300
Primary	4 Lanes Divided	30,000	33,800	37,500	46,900	41,300	51,600
Secondary	4 Lanes Undivided	20,000	22,500	25,000	31,300	27,500	34,400
Local	2 Lanes	10,000	11,300	12,500	18,800	13,800	20,700

Source: *City of San Clemente General Plan Circulation Element, 2003.*

According to the City's General Plan criteria, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

CURRENT GENERAL PLAN, *NO* FTC CONDITIONS

This section documents the Current General Plan with no Foothill Transportation Corridor (FTC) implemented. As previously stated, the forecast and level of service analysis for Current General Plan, *No* FTC was conducted by Stantec.

CURRENT GENERAL PLAN, *NO* FTC INTERSECTION OPERATIONS

Current General Plan, *No* FTC LOS results for study intersections are summarized in Table 5-5. The LOS calculations are attached in Appendix 5-1.

TABLE 5-5
INTERSECTION LEVEL OF SERVICE – CURRENT GENERAL PLAN NO FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.35	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.37	A	0.37	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.45	A	0.43	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.58	A	0.51	A
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.38	A	0.49	A
13	Cam De Estrella and Cam Mira Costa	Signalized	0.32	A	0.29	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.77	C	0.76	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.77	C	0.72	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.82	D	0.81	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.86	D	0.53	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.79	C	0.57	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.59	A	0.50	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.40	A	0.53	A
35	Ave Pico and Ave La Pata	Signalized	0.81	D	0.76	C
38	Ave Pico and Cle Amanecer	Signalized	0.71	C	0.84	D

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-5 CONT'D
INTERSECTION LEVELS OF SERVICE – CURRENT GENERAL PLAN NO FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.67	B	0.59	A
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	0.87	D	0.75	C
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.56	A	0.65	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.71	C	0.67	B
45	Ave Pico and Los Molinos	Signalized	0.51	A	0.76	C
47	El Camino Real and Ave Pico	Signalized	0.67	B	0.68	B
51	El Camino Real and El Portal	Signalized	0.47	A	0.46	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.68	B	0.53	A
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.48	A	0.51	A
55	El Camino Real and Palizada	Signalized	0.52	A	0.64	B
57	El Camino Real and Ave Del Mar	Signalized	0.27	A	0.45	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.46	A	0.42	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.31	A	0.31	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.38	A	0.42	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.38	A	0.55	A
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.44	A	0.36	A
65	El Camino Real and Ave San Juan	Signalized	0.28	A	0.33	A
67	El Camino Real and San Gabriel	Signalized	0.30	A	0.42	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.52	A	0.55	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.82	D	0.48	A
94	El Camino Real and Cam San Clemente	Signalized	0.62	B	0.54	A

Notes:
1. San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-5, using Current General Plan and Preferred General Plan policy, all of the study intersections operate acceptably under Current General Plan, *No* FTC Conditions. The minimum acceptable LOS at study intersections is LOS D.

CURRENT GENERAL PLAN, *NO* FTC ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-6.

TABLE 5-6
ROADWAY SEGMENT VOLUME PROJECTIONS – CURRENT GENERAL PLAN NO FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	38,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	34,000	E
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	31,000	D
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	30,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	23,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	11,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	8,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	35,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	26,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	20,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	19,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	17,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	8,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	3,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	11,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	35,000	E

Source: Stantec, 2012.

TABLE 5-6 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS – CURRENT GENERAL PLAN NO FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	20,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	60,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	57,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	49,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	45,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	40,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	33,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	31,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	33,000	F
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	23,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	12,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	12,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	24,000	E
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	30,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	26,000	F
	Avenida Pico	Los Molinos	2	Secondary	20,000	24,000	E
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	23,000	E
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		E
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	18,000	C
	Avenida Aragon	El Portal	2	Secondary	20,000		C
	El Portal	Canada	2	Secondary	20,000	16,000	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-6, using Current General Plan policy, all of the study roadway segments operate acceptably under Current General Plan, *No* FTC Conditions, with the exception of the following locations:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avenida Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
d. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
e. Avenida Pico, between Avenida Presidio and Calle del Cerro
f. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
g. Coast Highway, between Camino Capistrano Camino San Clemente
h. El Camino Real, between Camino San Clemente and Avenida Estacion
i. El Camino Real, between Avenida Estacion and Avenida Pico
j. El Camino Real, between Avenida Pico and Los Molinos
k. El Camino Real, between Los Molinos and Calle Las Bolas
l. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

CURRENT GENERAL PLAN, *WITH* FTC CONDITIONS

This section documents the Current General Plan with Foothill Transportation Corridor (FTC) implemented. As previously stated, the forecast and level of service analysis for Current General Plan, *With* FTC was conducted by Stantec.

CURRENT GENERAL PLAN, *WITH* FTC INTERSECTION OPERATIONS

Current General Plan, *With* FTC LOS results for study intersections are summarized in Table 5-7. The LOS calculations are attached in Appendix 5-1.

As shown in Table 5-7, using Current General Plan and Preferred General Plan policy, all of the study intersections operate acceptably under Current General Plan, *With* FTC Conditions. The minimum acceptable LOS at study intersections is LOS D.

TABLE 5-7
INTERSECTION LEVEL OF SERVICE – CURRENT GENERAL PLAN WITH FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.39	A	0.34	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.35	A	0.34	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.44	A	0.40	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.60	B	0.52	A
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.39	A	0.51	A
13	Cam De Estrella and Cam Mira Costa	Signalized	0.36	A	0.34	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.54	A	0.54	A
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.60	B	0.61	B
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.73	C	0.71	C
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.74	C	0.51	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.64	B	0.50	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.58	A	0.52	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.48	A	0.66	B
35	Ave Pico and Ave La Pata	Signalized	0.56	A	0.50	A
38	Ave Pico and Cle Amanecer	Signalized	0.63	B	0.71	C

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-7 CONT'D
INTERSECTION LEVELS OF SERVICE – CURRENT GENERAL PLAN WITH FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.57	A	0.54	A
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	0.75	C	0.55	A
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.53	A	0.53	A
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.56	A	0.55	A
45	Ave Pico and Los Molinos	Signalized	0.49	A	0.70	C
47	El Camino Real and Ave Pico	Signalized	0.52	A	0.58	A
51	El Camino Real and El Portal	Signalized	0.39	A	0.40	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.68	B	0.53	A
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.49	A	0.53	A
55	El Camino Real and Palizada	Signalized	0.51	A	0.63	B
57	El Camino Real and Ave Del Mar	Signalized	0.26	A	0.42	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.45	A	0.52	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.41	A	0.34	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.43	A	0.41	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.38	A	0.51	A
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.38	A	0.39	A
65	El Camino Real and Ave San Juan	Signalized	0.29	A	0.32	A
67	El Camino Real and San Gabriel	Signalized	0.30	A	0.44	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.37	A	0.42	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.79	C	0.54	A
94	El Camino Real and Cam San Clemente	Signalized	0.54	A	0.37	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

CURRENT GENERAL PLAN, *WITH* FTC ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-8.

TABLE 5-8
ROADWAY SEGMENT VOLUME PROJECTIONS – CURRENT GENERAL PLAN WITH FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	30,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	28,000	C
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	25,000	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	24,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	21,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	17,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	15,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	36,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	27,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	20,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	19,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	17,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	8,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	4,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	13,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	35,000	E

Source: Stantec, 2012.

TABLE 5-8 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS – CURRENT GENERAL PLAN WITH FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	21,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	50,000	C
	Avenida Presido	Calle del Cerro	3	Major	45,000	45,000	C
	Calle del Cerro	Calle Amanecer	3	Major	45,000	39,000	C
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	35,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	29,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	30,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	31,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	19,000	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	13,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	12,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	12,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	24,000	D
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	29,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	25,000	E
	Avenida Pico	Los Molinos	2	Secondary	20,000	23,000	E
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	22,000	E
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		E
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	18,000	C
	Avenida Aragon	El Portal	2	Secondary	20,000		C
	El Portal	Canada	2	Secondary	20,000	16,000	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-8, using Current General Plan policy, all of the study roadway segments operate acceptably under Current General Plan, *With* FTC Conditions, with the exception of the following locations:

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Coast Highway, between Camino Capistrano and Camino San Clemente
c. El Camino Real, between Camino San Clemente and Avenida Estacion
d. El Camino Real, between Avenida Estacion and Avenida Pico
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

PREFERRED GENERAL PLAN, *NO* FTC CONDITIONS

This section documents the Preferred General Plan with no Foothill Transportation Corridor (FTC) implemented. As previously stated, the forecast and level of service analysis for Preferred General Plan, *No* FTC was conducted by Stantec.

PREFERRED GENERAL PLAN, *NO* FTC INTERSECTION OPERATIONS

Preferred General Plan No FTC LOS results for study intersections are summarized in Table 5-9. The LOS calculations are attached in Appendix 5-1.

TABLE 5-9
INTERSECTION LEVEL OF SERVICE – PREFERRED GENERAL PLAN NO FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.40	A	0.42	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.43	A	0.40	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.40	A	0.48	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.82	D	0.78	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.46	A	0.65	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.39	A	0.38	A
21	Cam Del Rio and Ave La Pata	Signalized	***0.96***	***E***	***0.88***	***D***
23	Ave Vista Hermosa and Ave La Pata	Signalized	***0.78***	***C***	***0.97***	***E***
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	***0.94***	***E***	***1.06***	***F***
26	Ave Vista Hermosa and Cle Frontera	Signalized	***0.93***	***E***	***0.74***	***C***
27	Ave Vista Hermosa and I-5 NB on/off ramp[2]	Signalized	***0.93***	***E***	***0.69***	***B***
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.70	C	0.51	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.52	A	0.61	B
35	Ave Pico and Ave La Pata	Signalized	***0.93***	***E***	***0.91***	***E***
38	Ave Pico and Cle Amanecer	Signalized	***1.82***	***F***	***1.58***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.
2. Location is impacted under Current General Plan policy, not Preferred General Plan policy.

Source: Stantec, 2012.

TABLE 5-9 CONT'D
INTERSECTION LEVELS OF SERVICE – PREFERRED GENERAL PLAN NO FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.85	D	0.80	D
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.26***	***F***	***0.85***	***D***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.66	B	0.70	C
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.82	D	0.75	C
45	Ave Pico and Los Molinos	Signalized	***0.68***	***B***	***1.02***	***F***
47	El Camino Real and Ave Pico	Signalized	0.69	B	0.88	D
51	El Camino Real and El Portal	Signalized	0.51	A	0.53	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.66	B	0.62	B
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.53	A	0.56	A
55	El Camino Real and Palizada	Signalized	0.55	A	0.67	B
57	El Camino Real and Ave Del Mar	Signalized	0.24	A	0.48	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.43	A	0.53	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.29	A	0.38	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.38	A	0.52	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.45	A	0.66	B
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.42	A	0.44	A
65	El Camino Real and Ave San Juan	Signalized	0.29	A	0.36	A
67	El Camino Real and San Gabriel	Signalized	0.32	A	0.44	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.82	D	0.70	C
87	Ave Vista Hermosa and Ave Talega	Signalized	0.77	C	0.55	A
94	El Camino Real and Cam San Clemente	Signalized	0.88	D	0.51	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-9, using Current General Plan policy, all of the study intersections operate acceptably under Preferred General Plan, *No* FTC with the exception of the following locations. The minimum acceptable LOS at study intersections is LOS D under Current General Plan Policy. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

1. Camino Del Rio and Avenida La Pata (AM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)

4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Ave Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

PREFERRED GENERAL PLAN, *NO* FTC ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-10.

TABLE 5-10
ROADWAY SEGMENT VOLUME PROJECTIONS – PREFERRED GENERAL PLAN NO FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	43,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	37,000	E
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	35,000	E
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	33,000	D
	Avenida La Pata	Avenida Talega	2	Primary	30,000	23,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	14,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	10,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	42,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	34,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	22,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	21,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	19,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	10,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	4,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	16,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	43,000	F

Source: Stantec, 2012.

TABLE 5-10 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS – PREFERRED GENERAL PLAN NO FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	27,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	69,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	69,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	59,000	F
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	51,000	E
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	43,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	36,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	33,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	39,000	F
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	27,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	20,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	28,000	F
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	33,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	29,000	F
	Avenida Pico	Los Molinos	2	Secondary	20,000	30,000	F
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	27,000	F
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		F
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	22,000	D
	Avenida Aragon	El Portal	2	Secondary	20,000		D
	El Portal	Canada	2	Secondary	20,000	19,000	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-10, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *No* FTC Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenida De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

PREFERRED GENERAL PLAN, *WITH* FTC CONDITIONS

This section documents the Preferred General Plan with the Foothill Transportation Corridor (FTC) implemented. As previously stated, the forecast and level of service analysis for Preferred General Plan, *With* FTC was conducted by Stantec.

PREFERRED GENERAL PLAN, *WITH* FTC INTERSECTION OPERATIONS

Preferred General Plan, *With* FTC LOS results for study intersections are summarized in Table 5-11. The LOS calculations are attached in Appendix 5-1.

TABLE 5-11
INTERSECTION LEVEL OF SERVICE – PREFERRED GENERAL PLAN WITH FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.39	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.41	A	0.37	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.43	A	0.46	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.81	D	0.68	B
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.51	A	0.66	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.41	A	0.40	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.78	C	0.71	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.62	B	0.75	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.86	D	0.88	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.85	D	0.55	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.76	C	0.51	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.72	C	0.52	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.58	A	0.70	C
35	Ave Pico and Ave La Pata	Signalized	0.63	B	0.73	C
38	Ave Pico and Cle Amanecer	Signalized	***1.82***	***F***	***1.51***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-11 CONT'D
INTERSECTION LEVEL OF SERVICE – PREFERRED GENERAL PLAN WITH FTC CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.82	D	0.66	B
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.03***	***F***	***0.67***	***B***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.68	B	0.67	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.66	B	0.64	B
45	Ave Pico and Los Molinos	Signalized	***0.68***	***B***	***1.04***	***F***
47	El Camino Real and Ave Pico	Signalized	0.61	B	0.81	D
51	El Camino Real and El Portal	Signalized	0.47	A	0.49	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.67	B	0.62	B
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.54	A	0.57	A
55	El Camino Real and Palizada	Signalized	0.54	A	0.67	B
57	El Camino Real and Ave Del Mar	Signalized	0.25	A	0.45	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.48	A	0.57	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.37	A	0.42	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.41	A	0.49	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.44	A	0.59	A
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.39	A	0.47	A
65	El Camino Real and Ave San Juan	Signalized	0.30	A	0.35	A
67	El Camino Real and San Gabriel	Signalized	0.33	A	0.44	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.69	B	0.52	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.77	C	0.55	A
94	El Camino Real and Cam San Clemente	Signalized	0.78	C	0.48	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-11, using Current General Plan and Preferred General Plan policy, all of the study intersections operate acceptably with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

PREFERRED GENERAL PLAN, *WITH* FTC ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-12.

TABLE 5-12
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	33,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	32,000	D
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	28,000	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	26,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	22,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	18,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	16,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	40,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	21,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	20,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	18,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	9,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	5,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	17,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	50,000	F

Source: Stantec, 2012.

TABLE 5-12 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	28,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	60,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	57,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	48,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	41,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	33,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	34,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	35,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	24,000	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	19,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	21,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	27,000	F
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	32,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	29,000	F
	Avenida Pico	Los Molinos	2	Secondary	20,000	30,000	F
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	27,000	F
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		F
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	22,000	D
	Avenida Aragon	El Portal	2	Secondary	20,000		D
	El Portal	Canada	2	Secondary	20,000	20,000	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-12, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC Conditions, with the exception of the following locations:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano and Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
k. El Camino Real, between Avenida De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal

GENERAL PLAN MITIGATION MEASURES

Of the four General Plan scenarios, the Preferred General Plan, *No* FTC scenario encompasses the highest number of intersection impacts in the study area. The preferred General Plan has a denser development plan as described in Chapter 2, resulting in higher traffic volumes throughout the network. There is also no FTC corridor in this scenario that would otherwise provide congestion relief for the study area. The combination of these two factors result in this scenario having the highest number of intersection impacts.

This chapter identifies the impacts of each analysis scenario and the recommended mitigation measures for each impact.

SUMMARY OF GENERAL PLAN INTERSECTION IMPACTS

As previously stated, each analysis scenario was evaluated using Current General Plan and Preferred General Plan policy for study intersections and were identified as impacted when meeting the below criteria:

Using Current General Plan Policy:

Intersection performing at LOS E/F

Using Preferred General Plan Policy:

Intersection not located at freeway ramp performing at LOS E/F
Intersection located at freeway ramp performing at LOS F

The following intersections are identified as impacted using the Current General Plan Policy. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

Preferred General Plan, *No* FTC Conditions

1. Camino Del Rio and Avenida La Pata (AM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Ave Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Preferred General Plan, *With* FTC Conditions:

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

RECOMMENDED INTERSECTION MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by each scenario in the study area. Improvements recommended in the *City of San Clemente Bicycle and Pedestrian Master Plan, KTU+A and Fehr & Peers, August 2012* are also provided for alternative improvements that focus on other modes of transportation. Roadway mitigations must bring the LOS operations of intersections to a minimum of LOS D or better. Mitigations involving alternative mitigations, such as adding a bike lane, allows for an intersection or roadway segment to continue to perform deficiently with the idea that another method of travelling is provided. Figure 1 represents the future roadway network for the City of San Clemente. The mitigation LOS report is provided in Appendix 5-2.

Preferred General Plan, *No* FTC Conditions

1. Camino Del Rio and Avenida La Pata (AM peak hour)
   - Restripe the Camino Del Rio southbound right turn lane to a southbound through lane. This mitigation will require that the Camino Del Rio southbound receiving leg have three lanes. This mitigation will require public right-of-way acquisition.
     - Improved AM operations to LOS D, with a V/C ratio of 0.82.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide Class II bike lanes on Camino Del Rio and Avenida La Pata at this intersection. With only this improvement, the intersection will continue to perform at LOS F during the AM peak hour.

2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
   - Restripe on Avenida Vista Hermosa one eastbound through lane to an eastbound left turn lane. Restripe on Avenida Vista Hermosa one eastbound right turn lane to an eastbound through lane. This mitigation will require signal modifications.
     - Improved PM operations to LOS C, with a V/C ratio of 0.77.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the PM peak hour.

3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
   - Widen the intersection to provide an additional eastbound through and westbound through lane on Avenida Vista Hermosa, and a northbound left turn lane on Camino Vera Cruz. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS D, with a V/C ratio of 0.85 and improved PM operations to LOS C, with a V/C ration of 0.78.

4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
   - Restripe on Avendia Vista Hermosa the eastbound right turn lane to an eastbound through lane. This mitigation will require that the Avendia Vista Hermosa eastbound receiving leg have three lanes, which will require public right-of-way acquisition and the implementation of signal modifications.

- Improved AM operations to LOS D, with a V/C ratio of 0.84.

- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide Class III bike routes on Calle Frontera and Avenida Vista Hermosa, south of Calle Frontera at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the AM peak hour.

5. Avenida Vista Hermosa and I-5 NB on/off ramps (AM peak hour)
   - Restripe the eastbound right turn lane on Avenida Vista Hermosa to an eastbound shared through-right lane at the ramp and an eastbound through at the intersection. This mitigation may require a realignment and restriping of Avenida Vista Hermosa in the eastbound direction to provide shared through-right striping at the ramp and a third through lane at the intersection.
     - Improved AM operations to LOS C, with a V/C ratio of 0.78.
   - An alternative recommendation, as provided under the Preferred General Plan is to allow for an LOS E threshold at intersection ramp locations. Under the Preferred General Plan scenarios, this location is not impacted.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Avenida Vista Hermosa at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the AM peak hour.

6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
   - Restripe the westbound approach on Avenida Pico to have one additional westbound through lane. This mitigation will require that the Avenida Pico westbound receiving leg have four lanes, which will require public right-of-way acquisition and the implementation of signal modifications.
     - Improved AM and PM operations to LOS D, with a V/C ratio of 0.89 and 0.88 respectively.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico at this intersection. With only this improvement, the intersection will continue to perform at LOS E during the AM peak hour and LOS E or worse during the PM peak hour.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
   - Restripe on Avenida Pico one westbound through lane to a westbound left turn lane. Widen the southbound receiving leg on Calle Amanecer to have two lanes. Widen the Calle Amanecer northbound approach to provide three left and one free right turn lane. Widen Avenida Pico eastbound and provide one free eastbound right turn lane. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS C, with a V/C ratio of 0.73 and improved PM operations to LOS D, with a V/C ratio of 0.82.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Pico, south of this intersection, Class II bike lanes on Avenida Pico, and a Class III bike route on Calle Amanecer. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour and LOS F during the PM peak hour.

8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
   - Restripe the Avenida Pico eastbound right turn lane to an eastbound through lane. Widen the Avenida Pico eastbound receiving leg to have four lanes. Restripe one Calle Frontera/Avenida Presidio southbound through lane to a southbound left lane, and restripe the southbound right turn lane to a southbound through lane. Add one Avenida Pico westbound left turn lane and widen the Calle Frontera/Avenida Presidio southbound receiving leg to have two lanes. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS D, with a V/C ratio of 0.84.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path and Class II bike lane on Avenida Pico, and a Class III bike route on Calle Frontera/Avenida Presidio. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour.

9. Avenida Pico and Los Molinos (PM peak hour)
   - Restripe the Los Molinos northbound approach to have one northbound left turn and one northbound shared through-right turn lane. This mitigation will require signal modifications.
     - Improved PM operations to LOS D, with a V/C ratio of 0.89.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico, east of the intersection and a Class III bike route on Los Molinos. With only these improvements, the intersection will continue to perform at LOS F during the PM peak hour.

Preferred General Plan, *With* FTC Conditions

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
   - Restripe on Avenida Pico one westbound through lane to a westbound left turn lane. Widen the southbound receiving leg on Calle Amanecer to have two lanes. Widen the Calle Amanecer northbound approach to provide two left and one free right turn lane. Widen Avenida Pico eastbound and provide one free eastbound right turn lane. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS B, with a V/C ratio of 0.68 and improved PM operations to LOS D, with a V/C ratio of 0.89.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Pico, south of this intersection, Class II bike lanes on Avenida Pico, and a Class III bike route on Calle Amanecer. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour and LOS F during the PM peak hour.

8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
   - Restripe the Avenida Pico eastbound right turn lane to an eastbound shared through-right turn lane. Widen the Avenida Pico eastbound receiving leg to have four lanes. Restripe one Calle Frontera/Avenida Presidio southbound through lane to a southbound shared through-left lane, and restripe the southbound right turn lane to a southbound through lane. Add one Avenida Pico westbound left turn lane and

widen the Calle Frontera/Avenida Presidio southbound receiving leg to have two lanes. This mitigation will require public right-of-way acquisition and signal modifications.
    - Improved AM operations to LOS D, with a V/C ratio of 0.88.
  - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path and Class II bike lane on Avenida Pico, and a Class III bike route on Calle Frontera/Avenida Presidio. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour.

9. Avenida Pico and Los Molinos (PM peak hour)
  - Restripe the Los Molinos northbound approach to have one northbound shared through-left turn and one northbound right turn lane. This mitigation will require signal modifications.
    - Improved PM operations to LOS D, with a V/C ratio of 0.81.
  - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico, east of the intersection and a Class III bike route on Los Molinos. With only these improvements, the intersection will continue to perform at LOS F during the PM peak hour.

SUMMARY OF GENERAL PLAN ROADWAY SEGMENT IMPACTS

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

The following roadway segments are identified as impacted using the above criteria.

Current General Plan, *No* FTC Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
d. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
e. Avenida Pico, between Avenido Presidio and Calle del Cerro
f. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
g. Coast Highway, between Camino Capistrano and Camino San Clemente
h. El Camino Real, between Camino San Clemente and Avenida Estacion
i. El Camino Real, between Avenida Estacion and Avenida Pico
j. El Camino Real, between Avenida Pico and Los Molinos
k. El Camino Real, between Los Molinos and Calle Las Bolas
l. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

Current General Plan, *With* FTC Conditions:

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Coast Highway, between Camino Capistrano and Camino San Clemente
c. El Camino Real, between Camino San Clemente and Avenida Estacion

d. El Camino Real, between Avenida Estacion and Avenida Pico
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

Preferred General Plan, *No* FTC Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenida De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

Preferred General Plan, *With* FTC Conditions:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano and Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
k. El Camino Real, between Avenida De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal

RECOMMENDED ROADWAY SEGMENT MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by each scenario in the study area. Improvements recommended in the *City of San Clemente Bicycle and Pedestrian Master Plan, KTU+A and Fehr & Peers, August 2012* are also provided for alternative improvements that focus on other modes of transportation. Roadway mitigations must bring the LOS operations of roadway segments to a minimum of LOS D or better for major arterials and LOS C or better for primary, secondary, and local arterials. Mitigations involving alternative mitigations, such as adding a bike lane, allows for an

intersection or roadway segment to continue to perform deficiently with the idea that another method of travelling is provided. Figure 1 represents the future roadway network for the City of San Clemente.

Preferred General Plan, *No* FTC: Conditions

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
    - Widen Vista Hermosa to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
c. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
d. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
e. Avenida Pico, between Avenido Presidio and Calle del Cerro
    - Widen Avenida Pico to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
f. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
    - Widen Avenida La Pata to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
g. Coast Highway, between Camino Capistrano and Camino San Clemente
h. El Camino Real, between Camino San Clemente and Avenida Estacion
i. El Camino Real, between Avenida Estacion and Avenida Pico
j. El Camino Real, between Avenida Pico and Los Molinos
k. El Camino Real, between Los Molinos and Calle Las Bolas
l. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

Current General Plan, *With* FTC Conditions:

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.

- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.

b. Coast Highway, between Camino Capistrano and Camino San Clemente
c. El Camino Real, between Camino San Clemente and Avenida Estacion
d. El Camino Real, between Avenida Estacion and Avenida Pico
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

<u>Preferred General Plan, *No* FTC Conditions:</u>

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
    - Widen Vista Hermosa to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
    - Widen Avenida Pico to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
    - Widen Avenida La Pata to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
j. Coast Highway, between Camino Capistrano and Camino San Clemente

k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenida De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

Preferred General Plan, *With* FTC Conditions:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
    - Widen Vista Hermosa to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
    - Widen Avenida Pico to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
e. Coast Highway, between Camino Capistrano and Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
k. El Camino Real, between Avenida De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right of way.

- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 1 CONDITIONS

This section documents the Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of a 2-lane road diet on Coast Highway (North El Camino Real), between Camino San Clemente and Avenida Estacion, and a 2-lane road diet on Camino Mira Costa, between Camino De Estrella and Camino Capistrano. As previously stated, the forecast and level of service analysis for this scenario was conducted by Stantec.

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 1 INTERSECTION OPERATIONS

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1 LOS results for study intersections are summarized in Table 5-13. The LOS calculations are attached in Appendix 5-3.

TABLE 5-13
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 1 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.40	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.41	A	0.36	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.43	A	0.44	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.81	D	0.72	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.51	A	0.68	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.43	A	0.41	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.78	C	0.71	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.62	B	0.75	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.87	D	0.87	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.86	D	0.57	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.75	C	0.52	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-13 CONT'D
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 1 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.71	C	0.56	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.59	A	0.70	C
35	Ave Pico and Ave La Pata	Signalized	0.63	B	0.72	C
38	Ave Pico and Cle Amanecer	Signalized	***1.83***	***F***	***1.51***	***F***
41	Ave Pico and Cle Del Cerro	Signalized	0.82	D	0.65	B
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.02***	***F***	***0.68***	***B***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.67	B	0.68	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.67	B	0.63	B
45	Ave Pico and Los Molinos	Signalized	***0.68***	***B***	***1.06***	***F***
47	El Camino Real and Ave Pico	Signalized	0.57	A	0.70	C
51	El Camino Real and El Portal	Signalized	0.47	A	0.47	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.67	B	0.67	B
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.56	A	0.58	A
55	El Camino Real and Palizada	Signalized	0.55	A	0.71	C
57	El Camino Real and Ave Del Mar	Signalized	0.24	A	0.44	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.48	A	0.60	B
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.37	A	0.44	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.41	A	0.48	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.45	A	0.61	B
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.39	A	0.49	A
65	El Camino Real and Ave San Juan	Signalized	0.30	A	0.35	A
67	El Camino Real and San Gabriel	Signalized	0.33	A	0.44	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.70	C	0.53	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.77	C	0.54	A
94	El Camino Real and Cam San Clemente	Signalized	0.62	B	0.33	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-13, all of the study intersections operate acceptably with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 1 ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-14.

TABLE 5-14
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 1 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	33,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	32,000	D
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	28,000	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	26,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	22,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	18,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	16,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	41,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	21,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	20,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	18,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	9,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	6,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	19,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	51,000	F

Source: Stantec, 2012.

TABLE 5-14 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 1 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	27,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	60,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	57,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	47,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	41,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	33,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	34,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	35,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	24,000	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	19,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	21,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	18,000	C
El Camino Real	Camino San Clemente	Avenida Estacion	1*	Local	10,000	22,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	19,000	C
	Avenida Pico	Los Molinos	2	Secondary	20,000	25,000	E
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	23,000	E
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000		E
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	19,000	C
	Avenida Aragon	El Portal	2	Secondary	20,000		C
	El Portal	Canada	2	Secondary	20,000	18,000	C
	Canada	Escalones	2	Secondary	20,000		C
	Escalones	Mariposa	2	Secondary	20,000		C

Notes:
* = Proposed road diet. The majority of this roadway segment currently has one lane in each direction, therefore, the roadway segment LOS is not affected by the implementation of a road diet along this segment.
Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-14, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1 Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenida Presidio and Calle del Cerro
e. El Camino Real, between Camino San Clemente and Avenida Estacion
f. El Camino Real, between Avenida Pico and Los Molinos
g. El Camino Real, between Los Molinos and Calle Las Bolas
h. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 2 CONDITIONS

This section documents the Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of a 2-lane road diet on Coast Highway (North El Camino Real and south El Camino Real), between Avenida Pico and Christianitos Road.

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 2 INTERSECTION OPERATIONS

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2 LOS results for study intersections are summarized in Table 5-15. The LOS calculations are attached in Appendix 5-3.

TABLE 5-15
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 2 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.40	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.41	A	0.37	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.43	A	0.44	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.81	D	0.70	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.51	A	0.67	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.42	A	0.41	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.78	C	0.71	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.62	B	0.75	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.86	D	0.88	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.85	D	0.55	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.75	C	0.52	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.71	C	0.51	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.59	A	0.69	B
35	Ave Pico and Ave La Pata	Signalized	0.63	B	0.73	C
38	Ave Pico and Cle Amanecer	Signalized	***1.82***	***F***	***1.50***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-15 CONT'D
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 2 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.82	D	0.66	B
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.03***	***F***	***0.68***	***B***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.67	B	0.69	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.68	B	0.64	B
45	Ave Pico and Los Molinos	Signalized	***0.71***	***C***	***1.17***	***F***
47	El Camino Real and Ave Pico	Signalized	0.55	A	0.71	C
51	El Camino Real and El Portal	Signalized	0.54	A	0.62	B
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.73	C	0.72	C
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.60	B	0.66	B
55	El Camino Real and Palizada	Signalized	0.58	A	0.74	C
57	El Camino Real and Ave Del Mar	Signalized	0.34	A	0.59	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.54	A	0.71	C
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.43	A	0.49	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.57	A	0.65	B
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.50	A	0.73	C
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.55	A	0.59	A
65	El Camino Real and Ave San Juan	Signalized	0.39	A	0.46	A
67	El Camino Real and San Gabriel	Signalized	0.39	A	0.69	B
76	Cam Vera Cruz and Ave Pico	Signalized	0.69	B	0.52	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.77	C	0.55	A
94	El Camino Real and Cam San Clemente	Signalized	0.75	C	0.45	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-15, all of the study intersections operate acceptably with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 2 ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-16.

TABLE 5-16
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 2 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	33,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	32,000	D
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	28,000	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	26,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	22,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	18,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	16,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	41,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	21,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	20,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	18,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	9,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	5,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	17,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	51,000	F

Source: Stantec, 2012.

TABLE 5-16 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 2 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	29,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	60,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	57,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	48,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	41,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	33,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	34,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	35,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	24,000	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	19,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	21,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	24,000	E
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	28,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	25,000	E
	Avenida Pico	Los Molinos	1*	Local	10,000	21,000	F
	Los Molinos	Calle Las Bolas	1*	Local	10,000	20,000	F
	Calle Las Bolas	Avenida De La Grulla	1*	Local	10,000		F
	Avenida De La Grulla	Avenida Aragon	1*	Local	10,000	15,000	F
	Avenida Aragon	El Portal	1*	Local	10,000		F
	El Portal	Canada	1*	Local	10,000	12,000	E
	Canada	Escalones	1*	Local	10,000		E
	Escalones	Mariposa	1*	Local	10,000		E

Notes:
* = Proposed road diet.
Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-16, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2 Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
k. El Camino Real, between Avenide De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal
m. El Camino Real, between El Portal and Canada
n. El Camino Real, between Canada and Escalones
o. El Camino Real, between Escalones and Mariposa

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 3 CONDITIONS

This section documents the Year 2035 General Plan With Foothill Transportation Corridor Conditions with the implementation of Road Diet Alternative 1 and Alternative 2.

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 3 INTERSECTION OPERATIONS

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 LOS results for study intersections are summarized in Table 5-17. The LOS calculations are attached in Appendix 5-3.

TABLE 5-17
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 3 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.40	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.41	A	0.37	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.43	A	0.43	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.81	D	0.79	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.51	A	0.68	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.43	A	0.41	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.78	C	0.71	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.62	B	0.75	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.87	D	0.89	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.85	D	0.57	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.75	C	0.52	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.71	C	0.55	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.60	B	0.70	C
35	Ave Pico and Ave La Pata	Signalized	0.63	B	0.72	C
38	Ave Pico and Cle Amanecer	Signalized	***1.83***	***F***	***1.51***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-17 CONT'D
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 3 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.82	D	0.66	B
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.02***	***F***	***0.68***	***B***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.66	B	0.70	C
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.69	B	0.63	B
45	Ave Pico and Los Molinos	Signalized	***0.70***	***C***	***1.16***	***F***
47	El Camino Real and Ave Pico	Signalized	0.51	A	0.62	B
51	El Camino Real and El Portal	Signalized	0.53	A	0.61	B
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.73	C	0.74	C
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.61	B	0.67	B
55	El Camino Real and Palizada	Signalized	0.57	A	0.74	C
57	El Camino Real and Ave Del Mar	Signalized	0.34	A	0.59	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.54	A	0.71	C
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.43	A	0.50	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.57	A	0.65	B
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.50	A	0.73	C
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.55	A	0.59	A
65	El Camino Real and Ave San Juan	Signalized	0.39	A	0.46	A
67	El Camino Real and San Gabriel	Signalized	0.39	A	0.69	B
76	Cam Vera Cruz and Ave Pico	Signalized	0.70	C	0.52	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.77	C	0.54	A
94	El Camino Real and Cam San Clemente	Signalized	0.62	B	0.32	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-17, all of the study intersections operate acceptably with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET ALTERNATIVE 3 ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-18.

TABLE 5-18
ROADWAY SEGMENT LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 3 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	33,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	32,000	C
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	29,000	C
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	26,000	C
	Avenida La Pata	Avenida Talega	2	Primary	30,000	22,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	18,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	16,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	50,600	41,000	C
	Calle Agua	Avenida Vaquero	3	Major	50,600	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	50,600	21,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	20,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	18,000	C
	Camino Vera Crua	Camino del Rio	2	Primary	30,000	9,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	6,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	19,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	51,000	F

Source: Stantec, 2012.

TABLE 5-18 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC AND ROAD DIET ALTERNATIVE 3 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	29,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	59,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	56,000	E
	Calle del Cerro	Calle Amanecer	3	Major	45,000	47,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	41,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	33,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	34,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	36,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	24,000	C
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	19,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	21,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	17,000	C
El Camino Real	Camino San Clemente	Avenida Estacion	1*	Local	10,000	22,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	18,000	C
	Avenida Pico	Los Molinos	1*	Local	10,000	20,000	F
	Los Molinos	Calle Las Bolas	1*	Local	10,000	19,000	F
	Calle Las Bolas	Avenida De La Grulla	1*	Local	10,000		F
	Avenida De La Grulla	Avenida Aragon	1*	Local	10,000	14,000	F
	Avenida Aragon	El Portal	1*	Local	10,000		F
	El Portal	Canada	1*	Local	10,000	12,000	E
	Canada	Escalones	1*	Local	10,000		E
	Escalones	Mariposa	1*	Local	10,000		E

Notes:
* = Proposed road diet.
The majority of the roadway segment of El Camino Real, between Camino San Clemente and Avenida Estacion currently has one lane in each direction, therefore, the roadway segment LOS is not affected by the implementation of a road diet along this segment. A road diet is not proposed for the roadway segment of El Camino Real, between Avenida Estacion and Avenida Pico.

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-18, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 Conditions, with the exception of the following locations:

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
c. Avenida Pico, between Avenido Presidio and Calle del Cerro
d. El Camino Real, between Camino San Clemente and Avenida Estacion
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
h. El Camino Real, between Avenide De La Grulla and Avenida Aragon
i. El Camino Real, between Avenida Aragon and El Portal
j. El Camino Real, between El Portal and Canada
k. El Camino Real, between Canada and Escalones
l. El Camino Real, between Escalones and Mariposa

PREFERRED GENERAL PLAN, *WITH* FTC, *AND* ROAD DIET MITIGATION MEASURES

Road Diet Alternative 3 encompasses the road diets proposed under Alternative 1 and Alternative 2. Any measures to mitigate impacts of this scenario should satisfy the improvements needed to mitigate impacts identified in any of the other Road Diet Alternatives. As previously stated, each analysis scenario was evaluated using Current General Plan and Preferred General Plan policy and were identified as impacted when meeting the below criteria:

This chapter identifies the impacts of each road diet analysis scenario and the recommended mitigation measures for each impact.

SUMMARY OF ROAD DIET INTERSECTION IMPACTS

Using Current General Plan Policy:

Intersection performing at LOS E/F

Using Preferred General Plan Policy:

Intersection not located at freeway ramp performing at LOS E/F
Intersection located at freeway ramp performing at LOS F

The following intersections are identified as impacted under the Current General Plan Policy and Preferred General Plan Policy. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1:

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2:

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3:

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Table 5-19 presents a comparison between the Preferred General Plan, *With* FTC and the road diet scenarios. Generally, the implementation of the road diets cause either no impact, or cause additional impacts at the intersection to a small degree. Alternative 2 and Alternative 3 of the road diet causes a substantial increase in impacts to the intersection of Avenida Pico and Los Molinos. This can be attributed

to its close proximity to where the road diet is proposed. Vehicles may choose to take Avenida Pico as a detour to travelling through the road diet on El Camino Real.

TABLE 5-19
SUMMARY OF ROAD DIET IMPACTS

ID[1]	Intersection[2]	AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
7	Ave Pico and Cle Amanecer				
	- PGP with FTC	1.82	F	1.51	F
	- PGP with FTC + RD Alt 1	1.83	F	1.51	F
	- *Difference*	*0.01*		*0.00*	
	- PGP with FTC + RD Alt 2	1.82	F	1.50	F
	- *Difference*	*0.00*		*-0.01*	
	- PGP with FTC + RD Alt 3	1.83	F	1.51	F
	- *Difference*	*0.01*		*0.00*	
8	Ave Pico and Cle Frontera/Ave Presidio				
	- PGP with FTC	1.03	F	0.67	B
	- PGP with FTC + RD Alt 1	1.02	F	0.68	B
	- *Difference*	*-0.01*		*0.01*	
	- PGP with FTC + RD Alt 2	1.03	F	0.68	B
	- *Difference*	*0.00*		*0.01*	
	- PGP with FTC + RD Alt 3	1.02	F	0.68	B
	- *Difference*	*-0.01*		*0.01*	
9	Ave Pico and Los Molinos				
	- PGP with FTC	0.68	B	1.04	F
	- PGP with FTC + RD Alt 1	0.68	B	1.06	F
	- *Difference*	*0.00*		*0.02*	
	- PGP with FTC + RD Alt 2	0.71	C	1.17	F
	- *Difference*	*0.03*		*0.13*	
	- PGP with FTC + RD Alt 3	0.70	C	1.16	F
	- *Difference*	*0.02*		*0.12*	

San Clemente 2035 Traffic Model assigned intersection number.
1. CGP = Current General Plan, PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet
Source: Stantec, 2012.

RECOMMENDED INTERSECTION MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by the Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 scenario in the study area. Mitigations must bring the LOS operations of intersections to a minimum of LOS D or better. Figure 4-1 represents the future roadway network for the City of San Clemente. The mitigation LOS report is provided in Appendix 5-4.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)

- Restripe on Calle Amanecer one westbound through lane to westbound left turn lane. Widen the Avenido Pico southbound receiving leg to have two lanes. Widen the Avenido Pico northbound approach to provide two left and one free right turn lane. Provide one free eastbound right turn lane on Calle Amanecer. This mitigation will require public right-of-way acquisition and signal modifications.
  - Improved AM operations to LOS B, with a V/C ratio of 0.69 and improved PM operations to LOS D, with a V/C ratio of 0.89.
- As previously stated, the *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Pico, south of this intersection, Class II bike lanes on Avenida Pico, and a Class III bike route on Calle Amanecer. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour and LOS F during the PM peak hour.

8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
   - Restripe on Calle Frontera/Avenido Presidio the eastbound right turn lane to an eastbound through lane. Widen the Calle Frontera/Avenido Presidio eastbound receiving leg to have four lanes. Restripe the Avenida Pico southbound through lane to a southbound left, and restripe the Avenido Pico southbound right turn lane to a southbound shared through-right lane. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS D, with a V/C ratio of 0.81.
   - As previously stated, the *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Pico, south of this intersection, Class II bike lanes on Avenida Pico, and a Class III bike route on Calle Frontera/Avenida Presidio. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour.

9. Avenida Pico and Los Molinos (PM peak hour)
   - Restripe the Avenida Pico northbound approach to have one northbound shared left-through lane and one northbound right turn lane. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved PM operations to LOS D, with a V/C ratio of 0.85.
   - As previously stated, the *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico, east of the intersection and a Class III bike route on Los Molinos. With only these improvements, the intersection will continue to perform at LOS F during the PM peak hour.

SUMMARY OF ROAD DIET ROADWAY SEGMENT IMPACTS

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

The following roadway segments are identified as impacted using the above criteria.

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1 Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza

b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenida Presidio and Calle del Cerro
e. El Camino Real, between Camino San Clemente and Avenida Estacion
f. El Camino Real, between Avenida Pico and Los Molinos
g. El Camino Real, between Los Molinos and Calle Las Bolas
h. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2 Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
e. Coast Highway, between Camino Capistrano Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
k. El Camino Real, between Avenide De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal
m. El Camino Real, between El Portal and Canada
n. El Camino Real, between Canada and Escalones
o. El Camino Real, between Escalones and Mariposa

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 Conditions:

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
b. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
c. Avenida Pico, between Avenido Presidio and Calle del Cerro
d. El Camino Real, between Camino San Clemente and Avenida Estacion
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
h. El Camino Real, between Avenide De La Grulla and Avenida Aragon
i. El Camino Real, between Avenida Aragon and El Portal
j. El Camino Real, between El Portal and Canada
k. El Camino Real, between Canada and Escalones
l. El Camino Real, between Escalones and Mariposa

RECOMMENDED ROADWAY SEGMENT MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by each scenario in the study area. Improvements recommended in the *City of San Clemente Bicycle and Pedestrian Master Plan, KTU+A and Fehr & Peers, August 2012* are also provided for alternative improvements that focus on other modes of transportation. Roadway mitigations must bring the LOS operations of roadway segments to a

minimum of LOS D or better for major arterials and LOS C or better for primary, secondary, and local arterials. Mitigations involving alternative mitigations, such as adding a bike lane, allows for an intersection or roadway segment to continue to perform deficiently with the idea that another method of travelling is provided. Figure 4-2 represents the future roadway network for the City of San Clemente.

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 1 Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
    - Widen Vista Hermosa to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenida Presidio and Calle del Cerro
    - Widen Avenida Pico to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along this corridor. With only these improvements, the roadway segment will continue to perform deficiently.
e. El Camino Real, between Camino San Clemente and Avenida Estacion
f. El Camino Real, between Avenida Pico and Los Molinos
g. El Camino Real, between Los Molinos and Calle Las Bolas
h. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

Preferred General Plan, *With* FTC, *And* Road Diet Alternative 2 Conditions:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
    - Widen Vista Hermosa to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
b. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity.

- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.

c. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
d. Avenida Pico, between Avenido Presidio and Calle del Cerro
   - Widen Avenida Pico to add travel lanes and carry additional capacity.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
e. Coast Highway, between Camino Capistrano and Camino San Clemente
f. El Camino Real, between Camino San Clemente and Avenida Estacion
g. El Camino Real, between Avenida Estacion and Avenida Pico
h. El Camino Real, between Avenida Pico and Los Molinos
i. El Camino Real, between Los Molinos and Calle Las Bolas
j. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
k. El Camino Real, between Avenide De La Grulla and Avenida Aragon
l. El Camino Real, between Avenida Aragon and El Portal
m. El Camino Real, between El Portal and Canada
n. El Camino Real, between Canada and Escalones
o. El Camino Real, between Escalones and Mariposa
   - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

<u>Preferred General Plan, *With* FTC, *And* Road Diet Alternative 3 Conditions:</u>

a. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
   - Widen Camino De Estrella to add travel lanes and carry additional capacity.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
b. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
c. Avenida Pico, between Avenido Presidio and Calle del Cerro
   - Widen Avenida Pico to add travel lanes and carry additional capacity.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
d. El Camino Real, between Camino San Clemente and Avenida Estacion
e. El Camino Real, between Avenida Pico and Los Molinos
f. El Camino Real, between Los Molinos and Calle Las Bolas
g. El Camino Real, between Calle Las Bolas and Avendia De La Grulla
h. El Camino Real, between Avenide De La Grulla and Avenida Aragon

i. El Camino Real, between Avenida Aragon and El Portal
j. El Camino Real, between El Portal and Canada
k. El Camino Real, between Canada and Escalones
l. El Camino Real, between Escalones and Mariposa
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

CURRENT GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* CONDITIONS

This section documents the Year 2035 General Plan with the implementation of the Foothill Transportation Corridor Tesoro Extension Conditions.

CURRENT GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* INTERSECTION OPERATIONS

Current General Plan, *With* FTC *Tesoro Extension* LOS results for study intersections are summarized in Table 5-20. The LOS calculations are attached in Appendix 5-5.

TABLE 5-20
INTERSECTION LEVEL OF SERVICE –
CURRENT GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.36	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.38	A	0.36	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.46	A	0.44	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.57	A	0.49	A
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.38	A	0.49	A
13	Cam De Estrella and Cam Mira Costa	Signalized	0.32	A	0.30	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	0.84	D	0.79	C
23	Ave Vista Hermosa and Ave La Pata	Signalized	0.81	D	0.73	C
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	0.83	D	0.88	D
26	Ave Vista Hermosa and Cle Frontera	Signalized	0.87	D	0.52	A
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	0.79	C	0.58	A
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.57	A	0.50	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.39	A	0.52	A
35	Ave Pico and Ave La Pata	Signalized	0.83	D	0.76	C
38	Ave Pico and Cle Amanecer	Signalized	0.70	B	0.84	D

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-20 CONT'D
INTERSECTION LEVEL OF SERVICE –
CURRENT GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.67	B	0.59	A
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	0.87	D	0.75	C
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.56	A	0.65	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.74	C	0.67	B
45	Ave Pico and Los Molinos	Signalized	0.51	A	0.76	C
47	El Camino Real and Ave Pico	Signalized	0.68	B	0.68	B
51	El Camino Real and El Portal	Signalized	0.47	A	0.46	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.67	B	0.54	A
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.48	A	0.52	A
55	El Camino Real and Palizada	Signalized	0.51	A	0.63	B
57	El Camino Real and Ave Del Mar	Signalized	0.26	A	0.45	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.46	A	0.41	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.31	A	0.32	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.37	A	0.40	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.38	A	0.55	A
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.44	A	0.35	A
65	El Camino Real and Ave San Juan	Signalized	0.28	A	0.33	A
67	El Camino Real and San Gabriel	Signalized	0.30	A	0.42	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.53	A	0.55	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.83	D	0.48	A
94	El Camino Real and Cam San Clemente	Signalized	0.61	B	0.54	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-20, all of the study intersections operate acceptably Under Current General Plan, *With* FTC *Tesoro Extension* Conditions. The minimum acceptable LOS at study intersections is LOS D.

CURRENT GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-21.

TABLE 5-21
ROADWAY SEGMENT LEVEL OF SERVICE –
CURRENT GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	38,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	34,000	E
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	31,000	D
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	31,000	D
	Avenida La Pata	Avenida Talega	2	Primary	30,000	22,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	11,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	8,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	50,600	34,000	C
	Calle Agua	Avenida Vaquero	3	Major	50,600	26,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	50,600	20,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	19,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	17,000	C
	Camino Vera Crua	Camino del Rio	2	Primary	30,000	8,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	3,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	11,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	35,000	E

Source: Stantec, 2012.

TABLE 5-21 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
CURRENT GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	20,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	60,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	57,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	49,000	D
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	45,000	C
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	40,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	33,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	30,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	35,000	E
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	23,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	12,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	12,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	23,000	E
El Camino Real	Camino San Clemente	Avenida Estacion	1	Secondary	20,000	29,000	E
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	25,000	E
	Avenida Pico	Los Molinos	2	Secondary	20,000	23,000	E
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	23,000	E
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000	23,000	E
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	18,000	C
	Avenida Aragon	El Portal	2	Secondary	20,000	18,000	C
	El Portal	Canada	2	Secondary	20,000	16,000	C
	Canada	Escalones	2	Secondary	20,000	16,000	C
	Escalones	Mariposa	2	Secondary	20,000	16,000	C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-21, using Current General Plan policy, all of the study roadway segments operate acceptably under Current General Plan, *With* FTC *Tesoro Extension* Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
h. Coast Highway, between Camino Capistrano Camino San Clemente
i. El Camino Real, between Camino San Clemente and Avenida Estacion
j. El Camino Real, between Avenida Estacion and Avenida Pico
k. El Camino Real, between Avenida Pico and Los Molinos
l. El Camino Real, between Los Molinos and Calle Las Bolas
m. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* CONDITIONS

This section documents the proposed Year 2035 General Plan with the implementation of the Foothill Transportation Corridor Tesoro Extension Conditions.

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* INTERSECTION OPERATIONS

Current General Plan, *With* FTC *Tesoro Extension* LOS results for study intersections are summarized in Table 5-22. The LOS calculations are attached in Appendix 5-5.

TABLE 5-22
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.44	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.44	A	0.41	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.41	A	0.48	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.82	D	0.76	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.46	A	0.66	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.40	A	0.39	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	***1.06***	***F***	***0.91***	***E***
23	Ave Vista Hermosa and Ave La Pata	Signalized	***0.85***	***D***	***0.98***	***E***
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	***0.94***	***E***	***1.14***	***F***
26	Ave Vista Hermosa and Cle Frontera	Signalized	***0.94***	***E***	***0.75***	***C***
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	***0.92***	***E***	***0.70***	***B***
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.69	B	0.51	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.53	A	0.62	B
35	Ave Pico and Ave La Pata	Signalized	***0.98***	***E***	***0.93***	***E***
38	Ave Pico and Cle Amanecer	Signalized	***1.80***	***F***	***1.57***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-22 CONT'D
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.87	D	0.80	C
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.25***	***F***	***0.86***	***D***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.68	B	0.69	B
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.82	D	0.73	C
45	Ave Pico and Los Molinos	Signalized	***0.68***	***B***	***1.05***	***F***
47	El Camino Real and Ave Pico	Signalized	0.70	B	0.89	D
51	El Camino Real and El Portal	Signalized	0.53	A	0.54	A
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.68	B	0.62	B
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.54	A	0.57	A
55	El Camino Real and Palizada	Signalized	0.56	A	0.67	B
57	El Camino Real and Ave Del Mar	Signalized	0.25	A	0.47	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.44	A	0.53	A
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.30	A	0.38	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.39	A	0.52	A
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.47	A	0.68	B
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.44	A	0.47	A
65	El Camino Real and Ave San Juan	Signalized	0.29	A	0.37	A
67	El Camino Real and San Gabriel	Signalized	0.32	A	0.45	A
76	Cam Vera Cruz and Ave Pico	Signalized	0.83	D	0.70	A
87	Ave Vista Hermosa and Ave Talega	Signalized	0.73	C	0.54	A
94	El Camino Real and Cam San Clemente	Signalized	0.88	D	0.51	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-22, using Current General Policy, all of the study intersections operate acceptably under Preferred General Plan, *With* FTC *Tesoro Extension* Conditions with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)

3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Using Preferred General Plan policy, the intersection of Avenida Vista Hermosa and I-5 NB on/off ramp is not significantly impacted.

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION* ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-23.

TABLE 5-23
ROADWAY SEGMENT LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	43,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	38,000	F
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	35,000	E
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	33,000	D
	Avenida La Pata	Avenida Talega	2	Primary	30,000	23,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	14,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	11,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	41,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	22,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	21,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	19,000	C
	Camino Vera Cruz	Camino del Rio	2	Primary	30,000	10,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	4,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	16,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	43,000	F

Source: Stantec, 2012.

TABLE 5-23 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity	ADT	LOS
	From	To			(LOS C)		
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	28,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	69,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	69,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	59,000	F
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	52,000	E
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	43,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	36,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	33,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	41,000	F
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	28,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	20,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	27,000	F
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	10,000	33,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	29,000	F
	Avenida Pico	Los Molinos	2	Secondary	20,000	30,000	F
	Los Molinos	Calle Las Bolas	2	Secondary	20,000	27,000	F
	Calle Las Bolas	Avenida De La Grulla	2	Secondary	20,000	27,000	F
	Avenida De La Grulla	Avenida Aragon	2	Secondary	20,000	22,000	D
	Avenida Aragon	El Portal	2	Secondary	20,000	22,000	D
	El Portal	Canada	2	Secondary	20,000	19,000	C
	Canada	Escalones	2	Secondary	20,000	19,000	C
	Escalones	Mariposa	2	Secondary	20,000	19,000	C

Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-23, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC *Tesoro Extension* Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenide De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION, AND* ROAD DIET ALTERNATIVE 2 CONDITIONS

This section documents the proposed Year 2035 General Plan with the implementation of the Foothill Transportation Corridor Tesoro Extension and Road Diet Alternative 2 Conditions.

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION, AND* ROAD DIET ALTERNATIVE 2 INTERSECTION OPERATIONS

Preferred General Plan, *With* FTC *Tesoro Extension* LOS results for study intersections are summarized in Table 5-24. The LOS calculations are attached in Appendix 5-5.

TABLE 5-24
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION WITH ROAD DIET ALTERNATIVE 2 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
3	Cam De Los Mares and Cam Del Rio	SSSC	0.42	A	0.43	A
4	Cam De Los Mares and Cam Vera Cruz	Signalized	0.44	A	0.40	A
7	Cam De Los Mares and Ave Vaquero	Signalized	0.42	A	0.47	A
11	Cam Del Estrella and I-5 Northbound on/off ramp	Signalized	0.84	D	0.77	C
12	Cam Del Estrella and I-5 Southbound on/off ramp	Signalized	0.47	A	0.67	B
13	Cam De Estrella and Cam Mira Costa	Signalized	0.40	A	0.40	A
21	Cam Del Rio and Ave La Pata (Future)[2]	Signalized	***1.06***	***F***	***0.91***	***E***
23	Ave Vista Hermosa and Ave La Pata	Signalized	***0.85***	***D***	***0.98***	***E***
25	Ave Vista Hermosa and Cam Vera Cruz	Signalized	***0.94***	***E***	***1.14***	***F***
26	Ave Vista Hermosa and Cle Frontera	Signalized	***0.95***	***E***	***0.77***	***C***
27	Ave Vista Hermosa and I-5 NB on/off ramp	Signalized	***0.92***	***E***	***0.70***	***B***
28	Ave Vista Hermosa and I-5 SB on/off ramp	Signalized	0.69	B	0.50	A
34	Ave Vista Hermosa and Ave Pico	Signalized	0.53	A	0.62	B
35	Ave Pico and Ave La Pata	Signalized	***0.98***	***E***	***0.93***	***E***
38	Ave Pico and Cle Amanecer	Signalized	***1.81***	***F***	***1.57***	***F***

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.
Source: Stantec, 2012.

TABLE 5-24 CONT'D
INTERSECTION LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION WITH ROAD DIET ALTERNATIVE 2 CONDITIONS

ID[1]	Intersection	Control	AM Peak Hour		PM Peak Hour	
			ICU	LOS	ICU	LOS
41	Ave Pico and Cle Del Cerro	Signalized	0.86	D	0.80	C
42	Ave Pico and Cle Frontera/Ave Presidio	Signalized	***1.26***	***F***	***0.88***	***D***
43	Ave Pico and I-5 Northbound on/off ramp	Signalized	0.70	B	0.71	C
44	Ave Pico and I-5 Southbound on/off ramp	Signalized	0.82	D	0.72	C
45	Ave Pico and Los Molinos	Signalized	***0.72***	***C***	***1.18***	***F***
47	El Camino Real and Ave Pico	Signalized	0.59	A	0.74	C
51	El Camino Real and El Portal	Signalized	0.59	A	0.66	B
52	Ave Palizada and I-5 Northbound off ramp	Signalized	0.78	C	0.73	C
53	Ave Palizada and I-5 Southbound on ramp	Signalized	0.60	A	0.68	B
55	El Camino Real and Palizada	Signalized	0.57	A	0.74	C
57	El Camino Real and Ave Del Mar	Signalized	0.37	A	0.60	A
58	Ave Presidio and I-5 Northbound on ramp	SSSC	0.50	A	0.69	B
59	Ave Presidio and I-5 Southbound on/off ramp	SSSC	0.34	A	0.45	A
61	El Camino Real and Ave Victoria/Avenida Presidio	Signalized	0.57	A	0.67	B
63	El Camino Real and/I-5 Southbound on/off ramp	Signalized	0.53	A	0.77	C
64	El Camino Real and I-5 Northbound off ramp	Signalized	0.63	B	0.60	A
65	El Camino Real and Ave San Juan	Signalized	0.43	A	0.45	A
67	El Camino Real and San Gabriel	Signalized	0.38	A	0.63	B
76	Cam Vera Cruz and Ave Pico	Signalized	0.83	D	0.70	B
87	Ave Vista Hermosa and Ave Talega	Signalized	0.73	C	0.54	A
94	El Camino Real and Cam San Clemente	Signalized	0.85	D	0.48	A

Notes: ***Bold-italic*** text indicates impacted intersection.
1. Fehr & Peers' assigned intersection number / San Clemente 2035 Traffic Model assigned intersection number.

Source: Stantec, 2012.

As shown in Table 5-24, using Current General Policy, all of the study intersections operate acceptably under Preferred General Plan, *With* FTC *Tesoro Extension*, *And* Road Diet Alternative 2 Conditions with the exception of the following locations. Impacted intersections are numbered according to the Future Roadway Map, Figure 4-1.

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Using Preferred General Plan policy, the intersection of Avenida Vista Hermosa and I-5 NB on/off ramp is not significantly impacted.

PREFERRED GENERAL PLAN, *WITH* FTC *TESORO EXTENSION, WITH* ROAD DIET ALTERNATIVE 2 ROADWAY SEGMENT PROJECTIONS

As previously stated, daily traffic volumes at study roadway segments were calculated by Stantec. Roadway geometries and projected volumes are shown in Table 5-25.

TABLE 5-25
ROADWAY SEGMENT LEVEL OF SERVICE –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION WITH ROAD DIET ALTERNATIVE 2 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Vista Hermosa	I-5 NB on/off ramp	Calle Frontera	3	Major	45,000	43,000	C
	Calle Frontera	Via Turqueza	2	Primary	30,000	38,000	F
	Via Turqueza	Camino Vera Cruz	2	Primary	30,000	35,000	E
	Camino Vera Cruz	Avenida La Pata	2	Primary	30,000	33,000	D
	Avenida La Pata	Avenida Talega	2	Primary	30,000	23,000	C
	Avenida Talega	Camino La Pedriza	2	Primary	30,000	14,000	C
	Camino La Pedriza	Avenida Pico	2	Primary	30,000	10,000	C
Camino de Los Mares	Camino El Molino	Calle Agua	3	Major	45,000	43,000	C
	Calle Agua	Avenida Vaquero	3	Major	45,000	33,000	C
	Avenida Vaquero	Calle Nuevo	3	Major	45,000	22,000	C
	Calle Nuevo	Portico del Sur	2	Primary	30,000	21,000	C
	Portico del Sur	Camino Vera Cruz	2	Primary	30,000	19,000	C
	Camino Vera Crua	Camino del Rio	2	Primary	30,000	10,000	C
	Camino del Rio	Portico del Norte	2	Primary	30,000	2,000	C
Camino De Estrella	Camino Capistrano	Camino Mira Costa	2	Primary	30,000	4,000	C
	Camino Mira Costa	I-5 SB on/off ramp	2	Primary	30,000	17,000	C
	I-5 NB on/off ramp	Camino El Molino	2	Primary	30,000	43,000	F

Source: Stantec, 2012.

TABLE 5-25 CONT'D
ROADWAY SEGMENT VOLUME PROJECTIONS –
PREFERRED GENERAL PLAN WITH FTC TESORO EXTENSION WITH ROAD DIET ALTERNATIVE 2 CONDITIONS

Roadway	Segment		Lanes	Classification	Capacity (LOS C)	ADT	LOS
	From	To					
Avenida Pico	El Camino Real	I-5 NB on/off ramp	3	Major	45,000	29,000	C
	I-5 NB on/off ramp	Avenida Presido	3	Major	45,000	68,000	F
	Avenida Presido	Calle del Cerro	3	Major	45,000	69,000	F
	Calle del Cerro	Calle Amanecer	3	Major	45,000	59,000	F
	Calle Amanecer	Camino Vera Cruz	3	Major	45,000	52,000	E
	Camino Vera Cruz	Avenida La Pata	3	Major	45,000	43,000	C
	Avenida La Pata	Avenida Vista Hermosa	3	Major	45,000	36,000	C
	Avenida Vista Hermosa	Camino La Pedriza	3	Major	45,000	33,000	C
Avenida La Pata	Calle Saluda	Avenida Vista Hermosa	2	Primary	30,000	41,000	F
	Avenida Vista Hermosa	Avenida Pico	3	Primary	30,000	28,000	C
	Avenida Pico	Calle Amanecer	2	Primary	30,000	21,000	C
	Calle Amanecer	Calle del Cerro	2	Primary	30,000	20,000	C
Coast Hwy	Camino Capistrano	Camino San Clemente	2	Secondary	20,000	24,000	C
El Camino Real	Camino San Clemente	Avenida Estacion	1	Local	20,000	30,000	F
	Avenida Estacion	Avenida Pico	2	Secondary	20,000	26,000	F
	Avenida Pico	Los Molinos	1*	Local	10,000	22,000	F
	Los Molinos	Calle Las Bolas	1*	Local	10,000	21,000	F
	Calle Las Bolas	Avenida De La Grulla	1*	Local	10,000	21,000	F
	Avenida De La Grulla	Avenida Aragon	1*	Local	10,000	15,000	F
	Avenida Aragon	El Portal	1*	Local	10,000	15,000	F
	El Portal	Canada	1*	Local	10,000	12,000	D
	Canada	Escalones	1*	Local	10,000	12,000	D
	Escalones	Mariposa	1*	Local	10,000	12,000	D

Notes:
* = Proposed road diet.
Source: Stantec, 2012.

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

As shown in Table 5-25, using Current General Plan policy, all of the study roadway segments operate acceptably under Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2 Conditions, with the exception of the following locations:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
d. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
e. Avenida Pico, between Avenido Presidio and Calle del Cerro
f. Avenida Pico, between Calle del Cerro and Calle Amanecer
g. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
h. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
i. El Camino Real, between Camino San Clemente and Avenida Estacion
j. El Camino Real, between Avenida Estacion and Avenida Pico
k. El Camino Real, between Avenida Pico and Los Molinos
l. El Camino Real, between Los Molinos and Calle Las Bolas
m. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
n. El Camino Real, between Avenide De La Grulla and Avenida Aragon
o. El Camino Real, between Avenida Aragon and El Portal
p. El Camino Real, between El Portal and Canada
q. El Camino Real, between Canada and Escalones
r. El Camino Real, between Escalones and Mariposa

GENERAL PLAN, *WITH* FTC *TESORO EXTENSION*, MITIGATION MEASURES

As previously stated, each analysis scenario was evaluated using Current General Plan and Preferred General Plan policy and were identified as impacted when meeting the below criteria.

This chapter identifies the impacts of each road diet analysis scenario and the recommended mitigation measures for each impact.

SUMMARY OF FTC TESORO EXTENSION INTERSECTION IMPACTS

Using Current General Plan Policy:

Intersection performing at LOS E/F

Using Preferred General Plan Policy:

Intersection not located at freeway ramp performing at LOS E/F
Intersection located at freeway ramp performing at LOS F

The following intersections are identified as impacted under the Current General Plan Policy and Preferred General Plan Policy.

Preferred General Plan, *With* FTC *Tesoro Extension*:

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2:

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
5. Avenida Vista Hermosa and I-5 NB on/off ramp (AM peak hour)
6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)
9. Avenida Pico and Los Molinos (PM peak hour)

Table 5-26 presents a comparison between the Preferred General Plan, *With* FTC *Tesoro Extension* and Preferred General Plan, *With* FTC *Tesoro Extension*, *And* Road Diet Alternative 2 scenarios. Generally, the implementation of the road diet causes either no additional impact, or causes additional impacts at the intersection to a small degree. Mitigations recommended for the Preferred General Plan, *With* FTC *Tesoro Extension*, *And* Road Diet Alternative 2 scenario should satisfy the mitigations necessary under the Preferred General Plan, *With* FTC *Tesoro Extension* scenario as well. Therefore, recommended mitigation measures are only provided for the Preferred General Plan, *With* FTC *Tesoro Extension*, *And* Road Diet Alternative 2 scenario.

TABLE 5-26
FTC TESORO EXTENSION IMPACTS COMPARISON

ID[1]	Intersection[2]	AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
1	Cm Del Rio and La Pata				
	- PGP with FTC Tesoro Extension	1.06	F	0.91	E
	- PGP with FTC Tesoro Extension + RD Alt 2	1.06	F	0.91	E
	- *Difference*	*0.00*		*0.00*	
2	Ave Vista Hermosa and Ave La Pata				
	- PGP with FTC Tesoro Extension	0.85	D	0.98	E
	- PGP with FTC Tesoro Extension + RD Alt 2	0.85	D	0.98	E
	- *Difference*	*0.00*		*0.00*	
3	Ave Vista Hermosa and Cam Vera Cruz				
	- PGP with FTC Tesoro Extension	0.94	E	1.14	F
	- PGP with FTC Tesoro Extension + RD Alt 2	0.94	E	1.14	F
	- *Difference*	*0.00*		*0.00*	
4	Ave Vista Hermosa and Calle Frontera				
	- PGP with FTC Tesoro Extension	0.94	E	0.75	C
	- PGP with FTC Tesoro Extension + RD Alt 2	0.95	E	0.77	C
	- *Difference*	*0.01*		*0.02*	
5	Ave Vista Hermosa and I-5 NB on/off ramp				
	- PGP with FTC Tesoro Extension	0.92	E	0.70	B
	- PGP with FTC Tesoro Extension + RD Alt 2	0.92	E	0.70	B
	- *Difference*	*0.00*		*0.00*	

Notes:
1. PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet

Source: Stantec, 2012.

TABLE 5-26 CONT'D
FTC TESORO EXTENSION IMPACTS COMPARISON

ID[1]	Intersection[2]	AM Peak Hour		PM Peak Hour	
		ICU	LOS	ICU	LOS
6	Ave Pico and Ave La Pata - PGP with FTC Tesoro Extension - PGP with FTC Tesoro Extension + RD Alt 2 - *Difference*	0.98 0.98 *0.00*	E E	0.93 0.93 *0.00*	E E
7	Ave Pico and Calle Amanecer - PGP with FTC Tesoro Extension - PGP with FTC Tesoro Extension + RD Alt 2 - *Difference*	1.80 1.81 *0.01*	F F	1.57 1.57 *0.00*	F F
8	Ave Pico and Calle Frontera/Ave Presidio - PGP with FTC Tesoro Extension - PGP with FTC Tesoro Extension + RD Alt 2 - *Difference*	1.25 1.26 *0.01*	F F	0.86 0.88 *0.00*	D D
9	Ave Pico and Los Molinos - PGP with FTC Tesoro Extension - PGP with FTC Tesoro Extension + RD Alt 2 - *Difference*	0.68 0.72 *0.04*	B C	1.05 1.18 *0.13*	F F

Notes:
1. PGP = Preferred General Plan, FTC = Foothill Transit Corridor, RD = Road Diet

Source: Stantec, 2012.

RECOMMENDED INTERSECTION MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by each scenario in the study area. Improvements recommended in the *City of San Clemente Bicycle and Pedestrian Master Plan, KTU+A and Fehr & Peers, August 2012* are also provided for alternative improvements that focus on other modes of transportation. Roadway mitigations must bring the LOS operations of intersections to a minimum of LOS D or better. Mitigations involving alternative mitigations, such as adding a bike lane, allows for an intersection or roadway segment to continue to perform deficiently with the idea that another method of travelling is provided. Figure 1 represents the future roadway network for the City of San Clemente. The mitigation LOS report is provided in Appendix 5-6.

Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2:

1. Camino Del Rio and Avenida La Pata (AM and PM peak hour)
   - Restripe the Avenida La Pata southbound right turn lane to a southbound through lane. Widen the Camino Del Rio eastbound approach to provide an additional left turn lane onto Avenida La Pata. This mitigation will require that the Avenida La Pata southbound receiving leg have three lanes. This mitigation will require public right-of-way acquisition.
     - Improved AM operations to LOS D, with a V/C ratio of 0.83 and improved PM operations to LOS D with a V/C ratio of 0.87.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide Class II bike lanes on Camino Del Rio and Avenida La Pata at this intersection. With only this improvement, the intersection will continue to perform at LOS F during the AM peak hour and LOS E or worse during the PM peak hour.

2. Avenida Vista Hermosa and Avenida La Pata (PM peak hour)
     - Restripe on Avenida Vista Hermosa available right of way to provide an additional eastbound left turn lane.
     - Improved PM operations to LOS C, with a V/C ratio of 0.77.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the PM peak hour.

3. Avenida Vista Hermosa and Camino Vera Cruz (AM and PM peak hour)
   - Widen the intersection to provide an additional northbound left turn lane on Camino Vera Cruz. Restripe the westbound right turn lane on Avenida Vista Hermosa to a through lane. This mitigation will require that the Avenida Vista Hermosa westbound receiving leg have three lanes. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS D, with a V/C ratio of 0.85 and improved PM operations to LOS D, with a V/C ration of 0.90.

4. Avendia Vista Hermosa and Calle Frontera (AM peak hour)
   - Restripe on Avendia Vista Hermosa the eastbound right turn lane to an eastbound through lane. This mitigation will require that the Avendia Vista Hermosa eastbound receiving leg have three lanes, which will require public right-of-way acquisition and the implementation of signal modifications.
     - Improved AM operations to LOS D, with a V/C ratio of 0.84.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide Class III bike routes on Calle Frontera and Avenida Vista Hermosa, south of Calle Frontera at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the AM peak hour.

5. Avenida Vista Hermosa and I-5 NB on/off ramps (AM peak hour)

- Restripe the eastbound right turn lane on Avenida Vista Hermosa to an eastbound shared through-right lane at the ramp and an eastbound through at the intersection. This mitigation may require a realignment and restriping of Avenida Vista Hermosa in the eastbound direction to provide shared through-right striping at the ramp and a third through lane at the intersection.
  - Improved AM operations to LOS D, with a V/C ratio of 0.82.
- An alternative recommendation, as provided under the Preferred General Plan is to allow for an LOS E threshold at intersection ramp locations. Under the Preferred General Plan scenarios, this location is not impacted.
- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Avenida Vista Hermosa at this intersection. With only this improvement, the intersection will continue to perform at LOS E or worse during the AM peak hour.

6. Avenida Pico and Avenida La Pata (AM and PM peak hour)
   - Restripe the westbound approach on Avenida Pico to have one additional westbound through lane. This mitigation will require that the Avenida Pico westbound receiving leg have four lanes, which will require public right-of-way acquisition and the implementation of signal modifications. The volumes at this location need additional capacity at the Avenida Pico eastbound left and Avenida La Pata southbound right movements. The intersection already has two eastbound left turn lanes, however, and providing two southbound right turn lanes or providing a free southbound right turn lane will not mitigate the PM peak hour to within allowable LOS limits.
     - Improved AM and PM operations to LOS D, with a V/C ratio of 0.87 and 0.88 respectively.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico at this intersection. With only this improvement, the intersection will continue to perform at LOS E during the AM peak hour and LOS E during the PM peak hour.

7. Avenida Pico and Calle Amanecer (AM and PM peak hour)
   - Restripe on Avenida Pico one westbound through lane to a left turn lane. Widen the southbound receiving leg on Calle Amanecer to have two lanes. Widen the Calle Amanecer northbound approach to provide two left and one free right turn lane. Widen Avenida Pico eastbound to provide four through lanes and one free eastbound right turn lane. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved AM operations to LOS B, with a V/C ratio of 0.69 and improved PM operations to LOS D, with a V/C ratio of 0.87.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Pico, south of this intersection, Class II bike lanes on Avenida Pico, and a Class III bike route on Calle Amanecer. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour and LOS F during the PM peak hour.

8. Avenida Pico and Calle Frontera/Avenida Presidio (AM peak hour)

- Restripe the Avenida Pico eastbound right turn lane to an eastbound through lane. Widen the Avenida Pico eastbound receiving leg to have four lanes. Restripe the Calle Frontera/Avenida Presidio southbound through lane to a southbound left turn lane and the southbound right turn lane to a through lane. Add one Avenida Pico westbound left turn lane and widen the Calle Frontera/Avenida Presidio southbound receiving leg to have two lanes. This mitigation will require public right-of-way acquisition and signal modifications.
  - Improved AM operations to LOS D, with a V/C ratio of 0.85.
- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path and Class II bike lane on Avenida Pico, and a Class III bike route on Calle Frontera/Avenida Presidio. With only these improvements, the intersection will continue to perform at LOS F during the AM peak hour.

9. Avenida Pico and Los Molinos (PM peak hour)
   - Restripe the Los Molinos northbound approach to have one northbound shared left-through lane and one northbound right turn lane. Restripe the Avenida Pico westbound approach to have two left turn lanes, and two through lanes. This mitigation will require the Los Molinos southbound receiving have two receiving lanes. This mitigation will require public right-of-way acquisition and signal modifications.
     - Improved PM operations to LOS D, with a V/C ratio of 0.87.
   - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class II bike lane on Avenida Pico, east of the intersection and a Class III bike route on Los Molinos. With only these improvements, the intersection will continue to perform at LOS F during the PM peak hour.

SUMMARY OF TESORO EXTENSION ROADWAY SEGMENT IMPACTS

As previously stated, LOS "C" is the maximum acceptable level of congestion that should be maintained on a daily basis for primary and secondary arterials, and local streets, while LOS "D" and LOS "E" are the maximum acceptable level of congestion for major arterials and commercial designations, respectively.

The following roadway segments are identified as impacted using the above criteria.

Current General Plan, *With* FTC *Tesoro Extension*:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
h. Coast Highway, between Camino Capistrano Camino San Clemente
i. El Camino Real, between Camino San Clemente and Avenida Estacion
j. El Camino Real, between Avenida Estacion and Avenida Pico
k. El Camino Real, between Avenida Pico and Los Molinos
l. El Camino Real, between Los Molinos and Calle Las Bolas

m. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

Preferred General Plan, *With* FTC *Tesoro Extension*:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. Coast Highway, between Camino Capistrano and Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenide De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal

Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2 Conditions:

a. Avendia Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
j. El Camino Real, between Camino San Clemente and Avenida Estacion
k. El Camino Real, between Avenida Estacion and Avenida Pico
l. El Camino Real, between Avenida Pico and Los Molinos
m. El Camino Real, between Los Molinos and Calle Las Bolas
n. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
o. El Camino Real, between Avenide De La Grulla and Avenida Aragon
p. El Camino Real, between Avenida Aragon and El Portal
q. El Camino Real, between El Portal and Canada
r. El Camino Real, between Canada and Escalones
s. El Camino Real, between Escalones and Mariposa

RECOMMENDED ROADWAY SEGMENT MITIGATION MEASURES

Improvement measures were developed to mitigate the impacts incurred by each scenario in the study area. Improvements recommended in the *City of San Clemente Bicycle and Pedestrian Master Plan, KTU+A and Fehr & Peers, August 2012* are also provided for alternative improvements that focus on other modes of transportation. Roadway mitigations must bring the LOS operations of roadway segments to a minimum of LOS D or better for major arterials and LOS C or better for primary, secondary, and local arterials. Mitigations involving alternative mitigations, such as adding a bike lane, however, allows for an intersection or roadway segment to continue to perform deficiently with the idea that another method of travelling is provided.

Current General Plan, *With* FTC *Tesoro Extension*:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
    - Widen Avenida Vista Hermosa to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle Amanecer and Camino Vera Cruz
    - Widen Avenida Pico to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along this corridor. With only these improvements, the roadway segment will continue to perform deficiently.
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
    - Widen Avenida La Pata to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
j. Coast Highway, between Camino Capistrano Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla

p. El Camino Real, between Avenide De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

Preferred General Plan, *With* FTC *Tesoro Extension*:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
    - Widen Vista Hermosa to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
    - Widen Avenida Pico to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
    - Widen Avenida La Pata to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
j. Coast Highway, between Camino Capistrano Camino San Clemente
k. El Camino Real, between Camino San Clemente and Avenida Estacion
l. El Camino Real, between Avenida Estacion and Avenida Pico
m. El Camino Real, between Avenida Pico and Los Molinos
n. El Camino Real, between Los Molinos and Calle Las Bolas
o. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
p. El Camino Real, between Avenide De La Grulla and Avenida Aragon
q. El Camino Real, between Avenida Aragon and El Portal
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.

- The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

Preferred General Plan, *With* FTC *Tesoro Extension, And* Road Diet Alternative 2 Conditions:

a. Avenida Vista Hermosa, between Calle Frontera and Via Turqueza
b. Avendia Vista Hermosa, between Via Turqueza and Camino Vera Cruz
c. Avendia Vista Hermosa, between Camino Vera Cruz and Avenida La Pata
    - Widen Vista Hermosa to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class I bike path on Avenida Vista Hermosa between Camino Faro and Via Turqueza. With only these improvements, the roadway segment will continue to perform deficiently.
d. Camino De Estrella, between I-5 NB on/off ramp and Camino El Molino
    - Widen Camino De Estrella to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a Class III bike route on Camino De Estrella along this corridor. With only this improvement, the roadway segment will continue to perform deficiently.
e. Avenida Pico, between I-5 NB on/off ramp and Avenido Presidio
f. Avenida Pico, between Avenido Presidio and Calle del Cerro
g. Avenida Pico, between Calle del Cerro and Calle Amanecer
h. Avenida Pico, between Calle del Cerro and Camino Vera Cruz
    - Widen Avenida Pico to add travel lanes and carry additional capacity.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Avenida Pico along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.
i. Avenida La Pata, between Calle Saluda and Avenida Vista Hermosa
    - Widen Avenida La Pata to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
j. El Camino Real, between Camino San Clemente and Avenida Estacion
k. El Camino Real, between Avenida Estacion and Avenida Pico
l. El Camino Real, between Avenida Pico and Los Molinos
m. El Camino Real, between Los Molinos and Calle Las Bolas
n. El Camino Real, between Calle Las Bolas and Avenida De La Grulla
o. El Camino Real, between Avenide De La Grulla and Avenida Aragon
p. El Camino Real, between Avenida Aragon and El Portal
q. El Camino Real, between El Portal and Canada
r. El Camino Real, between Canada and Escalones
s. El Camino Real, between Escalones and Mariposa
    - Widen Coast Highway/El Camino Real to add travel lanes and carry additional capacity. This mitigation will require the acquisition of public right-of-way.
    - The *City of San Clemente Bicycle and Pedestrian Master Plan* proposes to provide a combination of Class I bike paths and Class II bike lanes on Coast Highway/El Camino

Real along these corridors. With only these improvements, the roadway segment will continue to perform deficiently.

VI. OTHER ISSUES

Issue #1- Traffic Issues Associated with Additional Development in the Rancho San Clemente Business Park

One major change associated with the Preferred General Plan alternative is an increase in development intensity associated with the Rancho San Clemente Business Park. This increase in development intensity is projected to occur in two ways. First, the Preferred General Plan assumes an increase in the overall square footage associated with development within the Business Park. Second, the Preferred General Plan assumes that much of the existing industrial uses within the Business Park would convert to operate as office use. This conversion is significant because office uses generate higher traffic levels than industrial uses. A review of the traffic model data indicates that the increase in square footage combined with the conversion of industrial uses to office increases the daily traffic associated with the Business Park by approximately 40,000-50,000 trips per day. Much of the traffic impacts associated with the Preferred General Plan, particularly the roadway segment and intersection impacts on Avenida Pico can be traced back to this increase in development intensities and use. These impacts will require mitigation, which may include intersection widening and widening of various roadways, such as Avenida Pico.

Recommendation: Given this increase in traffic, the City should consider one of two courses of action. First, if the City wishes to prioritize the additional development, then it should acknowledge that additional traffic will occur. This additional traffic will require the widening of existing intersections and potentially roadway segments as shown previously. The second option would be for the City to revise the anticipated levels of growth downward to a level which would limit the needed improvements. We are currently coordinating with the Planning Center to identify a level of incremental development which might reduce the level of impacts. A preliminary analysis indicates that the level of development associated with the previously adopted General Plan does not result in any significant impacts in the area proximate to the Business Park.

Issue #2- Traffic Model Showing Redistribution of Traffic from Surface Streets to I-5

Several scenarios with a road diet along segments of El Camino Real were analyzed using the City's Travel Demand Model. One outcome of this analysis was the Model predicting a potential redistribution of traffic from El Camino Real to I-5 with the implementation of this road diet. One significant question is whether this redistribution would really happen. In reviewing this issue with staff at Stantec, we conclude that this redistribution is reasonable and demonstrates that the Travel Demand Model is sensitive to changes in roadway capacity, which is an important consideration. We would expect that a reduction in roadway capacity should divert traffic to other parallel facilities. Even with this diversion, we noted several deficient locations within the City with the implementation of this road diet alternative.

Recommendation: The Travel Demand Model shows a redistribution of traffic when roadway capacity is reduced in the alternatives with the road diet. This redistribution indicates that the model is sensitive to these types of changes in the roadway network.

Issue #3- Consistency with Previous Travel Demand Model

The Travel Demand Model applied by Stantec is an updated version of a Citywide model developed previously. This updated version reflects the latest information from the TCA and OCTA regarding regional roadways and development in areas outside of San Clemente. One difference between the most

current version of the Travel Demand Model and previous versions is that traffic volumes on Pacific Coast Highway (PCH) are higher in the current version of the Travel Demand Model. According to Stantec, this increase results from some changes in the forecasts produced by OCTA which show higher demand along PCH. This increase in traffic likely originates from changes to the land use and transportation network outside of the City, which is reflected in the Countywide OCTA Travel Demand Model (OCTAM).

Recommendation: OCTA requires that all Travel Demand Models, such as the one used for the City's General Plan, maintain some level of consistency with OCTAM. The higher forecasts on PCH are therefore consistent with the Countywide Model and represent the most updated information available.

Issue #4- Weekend/Summer Traffic

Anecdotal evidence suggests that traffic levels on I-5 and the surface roadways in San Clemente are higher during summer periods, particularly on the weekends. It is our understanding that several of the roadways in San Clemente experience significant congestion due to an influx of visitors during this time. While this time is the peak level of traffic activity, the analysis presented in the previous chapters represents a typical weekday condition. The use of a typical weekday is typically done in traffic engineering since it is standard practice to plan for typical conditions instead of a worst case condition.

One consequence of this higher level of congestion is that traffic is likely to divert from I-5 onto City roadways during periods of peak activity. This diversion is likely to cause additional congestion on major roadways which parallel I-5 such as El Camino Real. It is difficult to quantify this level of diversion since there are no quantitative tools available which can accurately forecast weekend conditions.

Recommendation: Even though we lack a specific tool that will tell us precisely what weekend conditions will be like during the peak summer months, we can safely assume that they would be worse than the results reported for the typical weekday conditions. That conclusion leads to two potential policy options for the City.

First, the City could choose to maximize the available capacity on City roadways. A consequence of that choice would be to maintain the City's existing LOS policy and continue to apply it to roadway segments and intersections, as has been done traditionally. Maximizing the available capacity on City roadways could also occur by limiting future development in the City. For example, we have noted that the previously Adopted General Plan produces fewer traffic impacts than the Proposed General Plan. Additionally, this approach would likely eliminate the road diet on El Camino Real. The end result of this policy option would be an auto-centric circulation system which provides the maximum accessibility to automobiles. This approach would likely limit congestion both during the weekdays and also the summer peak times.

The second approach the City could take is to accept that this congestion will occur and plan the roadway network to accommodate the need of their residents and workers. A similar position was taken by the City of Newport Beach which states the following within their Circulation Element:

This Circulation Element continues longstanding Newport Beach policies of using the shoulder season for transportation planning, sizing the circulation system to meet the needs of City residents and businesses, and maintaining the character of the community. While these policies may prevent the City from achieving a desired level of service at all locations at all hours, they also protect Newport Beach from building oversized roads to serve weekend summer beach traffic or traffic generated outside of our borders and our control. Instead, policies in this Element encourage improvements to the regional system

that will provide more capacity outside Newport Beach and reduce the number of through travelers that drive on our local streets.

If the City of San Clemente wished to pursue this approach, it would likely implement less restrictive LOS policies and implement recommendations such as the proposed road diet on El Camino Real. This approach would also create a more balanced transportation system, where driver's needs are balanced with those of other users of the transportation system such as pedestrians and cyclists.

Our previous recommendation was for the City to implement policies and approaches which provide a more balanced transportation system. This choice may result in more congestion, particularly during peak times such as summer weekends. However; we would consider this result to be balanced with the benefits of creating a transportation system that accommodates all modes of travel instead of an auto-centric system.

Issue #5- Road Diet Alternatives

The transportation analysis presented in Chapter 5 evaluates several alternatives which include a road diet along El Camino Real. This road diet would reduce several sections of El Camino Real from four lanes to two, to allow for the implementation of bicycle facilities along El Camino Real. The analysis presented several traffic impacts that would occur; however this information should be considered to be a preliminary evaluation of this scenario given the level of detailed analysis that could be required to fully evaluate the effects of a road diet.

Recommendation: We would recommend that the City perform a detailed traffic operations and engineering review of El Camino Real to determine the full extent of impacts associated with this road diet. This study would consider items such as the ability of intersections to serve the anticipated demand, how queuing from adjacent intersections will affect each other, any intersection specific design issues, and other related items. We would further recommend that the City include the road diet as a potential improvement in the General Plan and exclude the road diet only after completing these more rigorous technical studies.

Issue #6- Pros/Cons of LOS Approaches

Our evaluation of LOS policies recommended that the City consider a less restrictive LOS policy and allow LOS E operations at several interchanges with I-5 and also eliminate roadway segment LOS as an evaluation tool. Alternatively, the City could choose to keep its LOS policy as currently written and continue the evaluation of roadway segment LOS. The consequences of each choice are described below.

The use of less restrictive LOS policies will directly result in the City building less roadway infrastructure since fewer impacts will be identified. The main benefit will be that these narrower roadways and intersections will likely be more accommodating for other travel modes. As an example, it is easier for a pedestrian to cross a narrower roadway than a wider one. Bicyclists are more comfortable on narrower roadways since vehicles tend to travel slower on narrower roadways.

One disadvantage to this approach relates to development exactions. Since less restrictive policies result in fewer improvements, it will be slightly more difficult for the City to establish that nexus between a development and future improvements. For example, if a future development were to degrade operations at an intersection where LOS E was allowed, the City could not require that development to implement improvements at that location as a direct impact. Since there are only 4 locations where LOS E

would be allowed, this occurrence is likely to be limited for intersection impacts. The larger change is likely to be the manner in which roadway segment impacts are evaluated. As we noted previously, we have not found roadway segment analysis to be as accurate or as meaningful as intersection analysis. Removing this methodology from the City's General Plan will make it more difficult to require a future development to widen an entire roadway segment. It is conceivable that mitigating multiple intersections along a single corridor could result in widening an entire roadway; though it would be more difficult to directly tie a roadway widening to a particular project.

Another limitation would relate to congestion. Less restrictive LOS policies typically result in higher levels of congestion. As noted in our discussion of Issue #4, motorists and vehicle passengers would experience more congestion with less restrictive LOS policies, particularly at those locations where LOS E conditions are allowed. Based on the traffic model results, there appear to be only four locatons were LOS E is justified.

Keeping the LOS policies as they are currently provided will result in the City constructing more roadway and intersection improvements than would otherwise occur. One benefit of this approach is that it would reduce congestion as compared to more relaxed LOS standards. All of the City intersections would be held to their current LOS standards.

A second benefit is development exactions related to intersection and roadway segment mitigations. For example, if the City maintains roadway segments as an evaluation methodology, then the City could tie development impacts to roadway widening.

The main limitation of this second approach would be to create a transportation system which is more auto-centric. As noted previously, narrower roadways are more conducive to bicycle and pedestrian travel. Conversely, wider roadways are less accommodating of bicyclists and pedestrians.

Recommendation: As noted previously, we had recommend that the City consider policies and actions which relate to a balanced transportation system. While there will be downsides to this approach, such as increased congestion, we believe that the benefits outweigh the negative aspects.

VII. DEFINITIONS

AADT: Average annual daily traffic	The total volume of vehicle traffic on a roadway segment for a year, divided by 365 days.
AM	Morning vehicular peak hour, typically 7-9 AM during a weekday.
ARB: Air Resource Board	Agency in California made up of Bureau of Air Sanitation and Motor Vehicle Pollution Control Board aimed at maintaining healthy air quality and providing strategies for complying with air pollution regulations.
Bicycle and Pedestrian Master Plan	A plan identifying objectives and implementation strategies to accommodate bicycle and pedestrian travel.
Bike Path (Class I)	Bicycle facility separated from vehicular right-of-way.
Bike Lane (Class II)	Dedicated bicycle facility on vehicular right-of-way designated by lane striping and markings.
Bike Route (Class III)	Bike facility sharing vehicular right-of-way, designated by signage.
BRT: Bus Rapid Transit	A system of bus service more efficient than an ordinary bus line.
California Complete Streets Act – AB 1358	Bill requiring circulation elements to address the transportation system from a multi-modal perspective, including walking, biking, car travel, and transit.
Caltrans	California State agency responsible for highway, bridge, and rail transportation planning, construction, and maintenance.
Capacity	The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.
CBSP: Commuter Bikeways Strategic Plan	Plan developed by OCTA in 2009 to enhance Orange County's bikeways.
CDBG: Community Development Block Grant	A flexible program that provides communities with resources to address community development needs.
CEQA: California Environmental Quality Act	A statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible.

CGP: Current General Plan	The General Plan that the City of San Clemente has currently adopted.
CHP: California Highway Patrol	Law enforcement agency that has patrol jurisdiction over all California highways and acts as the State police.
CIP: Capital Improvement Program	Multi-year planning program that evaluates and identifies capital infrastructure projects in need of renovation, repair, and/or construction.
Circulation Element	Document part of the General Plan addressing the movement of people and goods in a transportation network.
CMA: Congestion Management Agency	Agency responsible for developing, monitoring, and biennially updating the CMP. Orange County's CMA is the Orange County Transportation Authority.
CMP: Congestion Management Program	Program to support regional mobility and air quality objectives by reducing traffic congestion, providing a mechanism for coordinating land use, making decisions to support the regional economy, and determining gas tax fund eligibility.
Crosswalk	Pedestrian crossing at intersection or at mid-block locations designated by a combination of striping and crossing signals.
EIR: Environmental Impact Report	Environmental document required under CEQA to disclose potentially adverse environmental impacts.
Evaluate Roadway Performance	Evaluating the operations of a roadway segment, comparing the volume of traffic using the road versus the provided lane capacity. Typically measured on a daily basis.
FTC: Foothill Transportation Corridor	The FTC, also referred to as State Route 241 (SR-241) is proposed to be extended from its current terminus at Oso Parkway in Mission Viejo to Interstate 5 (I-5), just south of the San Diego and Orange County border. The extension spans 16 miles and would provide much needed relief to I-5. Construction of two lanes in each direction from Oso Parkway to Cow Camp Road is planned for early 2013.
Gas Tax Fund	A tax imposed on the sale of fuel, typically dedicated to funding transportation projects.
General Fund	The primary fund of a government.
General Plan	Policy adopted by each City and County to guide

	future land development.
GHG: Greenhouse Gas Emissions	Atmospheric gas consisting of water vapor, carbon dioxide, methane, nitrous oxide, ozone and chlorofluorocarbon that traps infra red heat trying to escape into space, raising the temperature of Earth's surface.
Global Warming Solutions Act	Act defining baseline level of emissions and rules for reducing greenhouse gases (GHG) to 1990 levels by 2020.
HCM: Highway Capacity Manual	Publication of the Transportation Research Board that contains concepts, guidelines, and procedures for computing operational performance of transportation facilities from a vehicular standpoint.
ICU: Intersection Capacity Utilization	Traffic analysis method that analyzes the operations of signalized intersections based on the intersection configuration (capacity) and the peak hour intersection volumes to calculate an ICU ratio.
Impact	When an intersection or roadway segment operates at a level of service worse than required by the City.
ITE: Institute of Transportation Engineers	International association of transportation professionals that facilitates the application of technology and principles for any mode of ground transportation.
LOS: Level of Service	Assigned letter grade corresponding to the estimated operations of an intersection or roadway segment. A scale of letter grade A (no congestion) to LOS F (extensive congestion) is used.
M1: Measure M	A 20-year program passed in 1990 for local transportation improvements funded by a half-cent sales tax, administered by OCTA in Orange County.
M2	Renewal of Measure M.
Master Plan	Comprehensive plan to guide long-term development.
MMLOS: Multi-Modal Level of Service	Traffic analysis method that quantifies the benefits of both automotive and non-automotive improvements at intersections and along corridors.
MPAH: Master Plan of Arterial Highways	Orange County's countywide circulation system, monitored by OCTA, that reflects existing and proposed arterials.
MPO: Metropolitan Planning Organization	Federally funded transportation policy-making

	organization founded for every urbanized area with a population over 50,000. MPOs administer governmental funds for transportation projects and programs.
Mitigation Measure	Recommended improvement at an intersection or roadway segment to bring the impacted location to within allowable level of service.
Model	Forecasting software used to project future travel patterns.
OCTA: Orange County Transportation Authority	Bus agency serving Orange County.
Peak Hour	The highest number of vehicles occurring at an intersection over a consecutive 60 minutes.
PEQI: Pedestrian Environmental Quality Index	A tool that scores walkability in an area to prioritize pedestrian infrastructure and planning projects
PGP: Preferred General Plan	The proposed General Plan for City approval.
PM	Evening vehicular peak hour, typically 4-6 PM during a weekday.
RCFPP: Regional Circulation Financing and Phasing Program	Transportation improvement fund to assist the implementation of the Circulation Element.
RD: Road Diet	Reducing the number of lanes along a corridor.
RHNA: Regional Housing Needs Assessment	Mandate by State Housing Law to update local housing elements of a General Plan.
ROW : Right-of-Way	Land or property granted for transportation facilities.
RTP: Regional Transportation Plan	Long-range transportation improvement and funding program for a region's transportation system, typically planning for 30 years on.
SCS: Sustainable Communities Strategy	Regional blueprint for transportation, housing and land use focused on reducing driving and greenhouse gas emissions.
Side Walk	Right-of-way intended for pedestrian use.
Signalized intersection	Vehicular intersection controlled by a traffic signal.
Specific Plan	Planning tool linking the implementation policies of the General Plan with individual developments proposed in a defined area
SSSC: Side-Street-Stop Controlled	An unsignalized intersection with stop controls on two opposing approaches, typically the minor approach.
STAA: Surface Transportation Act	Federal act passed in 1982 requiring states to allow larger truck on the Interstate and non-Interstate

	Federal-Aid Primary systems.
Street Improvement Fund	Fund dedicated for the acquisition of property for the construction or maintenance of streets and highways.
SWITRS: California's Statewide Integrated Traffic Records System Collision Data	Database of retrieving collision records.
TIA: Transportation Impact Analysis	A technical report documenting the operations, impacts, and mitigations of a plan or project.
TOD: Transit Oriented Development	Community centered around a high quality transit system to deter the dependence on automobiles.
Traffic Calming	Implementation strategies aimed at slowing down and reducing traffic.
UCLA: University of California, Los Angeles	
Unsignalized Intersection	Vehicular intersection controlled by stop or yield signs, not by a traffic signal.
VPH: Vehicles per hour	The volume of vehicles occurring at a location over the course of one consecutive hour.
V/C: Volume-to-Capacity Ratio	A decimal value representing the volume of traffic demand over the lane capacity provided at an intersection.

APPENDIX 0-1: PREPARER QUALIFICATIONS

Christopher J. Gray, AICP, is a Senior Associate with 15 years experience in transportation planning, Sustainable Transportation, climate change studies, travel demand forecasting, parking studies, transit studies, and Smart Growth. He has managed over 100 projects while at Fehr & Peers including: the Irvine Climate Action Plan, advising the Orange County Transportation Authority regarding SB 375, and the development of a Sustainability Model for the SCAG. He has extensive experience working with transit projects including development of the Direct Ridership Model prepared by Fehr & Peers along with several studies for OCTA under the Go Local Program. He is a member of APA, CNU, and AEP. He earned a Bachelors of Arts in Political Science from the University of Florida and a Master's of Science in Planning from Florida State University.

Thao Pham is a Transportation Engineer with over two years of experience and earned her Bachelor's of Science Degree in Civil Engineering from California State Polytechnic University, Pomona. Her experience includes work on traffic impact studies for the Ball Road and Main Street Grade Separation PSR(E) in Orange County, micro-simulation projects, travel demand modeling for the Coachella Valley General Plan, roadway design, and transportation planning for the CollegeTown Specific Plan/EIR in Fullerton. Ms. Pham is familiar with Traffix, TransCAD, Synchro, AutoCAD, and ArcGIS among many other transportation software programs.

APPENDIX 1-1: 2010 BASE YEAR VOLUMES AND LOS RESULTS

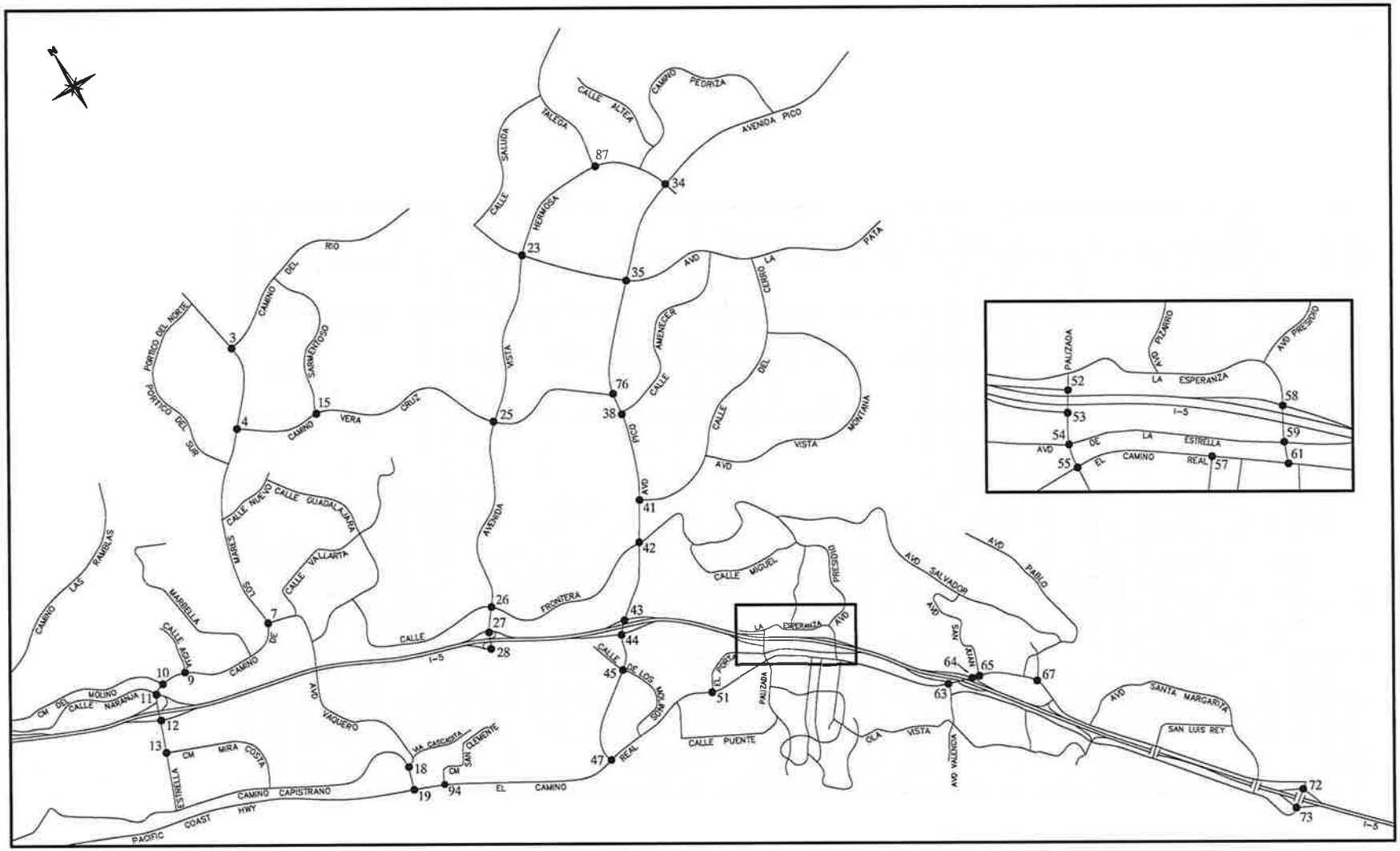

Figure 4

EXISTING INTERSECTION LOCATION MAP

SAN CLEMENTE EXISTING (2010) COUNT ICU SUMMARY

Intersection	AM	PM
3. Cm Del Rio & Cm De Los Mares	.25	.19
4. Cm Vera Cruz & Cm De Los Mares	.29	.33
7. Avd Vaquero & Cm De Los Mares	.39	.39
9. Calle Agua & Cm De Los Mares	.46	.56
10. Cm El Molino & Cm De Los Mares	.38	.50
11. I-5 NB Ramps & Cm De Estrella	.39	.46
12. I-5 SB Ramps & Cm De Estrella	.52	.77
13. Cm Mira Costa & Cm De Estrella	.30	.31
15. Cm Vera Cruz & Sarmentoso	.36	.32
18. Cm Capistrano & Avd Vaquero	.24	.39
19. PCH & Cm Capistrano	.40	.57
23. Avd La Pata & Avd Vista Hermosa	.46	.35
25. Cm Vera Cruz & Avd Vista Hermosa	.71	.61
26. Calle Frontera & Avd Vista Hermosa	.48	.50
27. I-5 NB Ramps & Avd Vista Hermosa	.41	.40
28 I-5 SB Ramps & Avd Vista Hermosa	.31	.38
34. Avd Vista Hermosa & Avd Pico	.23	.21
35. Avd La Pata & Avd Pico	.24	.36
38. Calle Amancer & Avd Pico	.56	.61
41. Del Cerro & Avd Pico	.64	.53
42. Avd Presidio & Avd Pico	.59	.49
43. I-5 NB Ramps & Avd Pico	.68	.68
44. I-SB Ramps & Avd Pico	.63	.69
45. Calle De Los Mlinos & Avd Pico	.40	.52
47. El Camino Real & Avd Pico	.37	.43
51. El Camino Real & El Portal	.29	.37
52. I-5 NB On & Avd Palizada	.56	.42
53. I-5 SB Off & Avd Palizada	.43	.44
54. Avd Estrella & Avd Palizada	.46	.52
55. El Camino Real & Avd Palizada	.43	.57
57. El Camino Real & Avd Del Mar	.21	.43
58. I-5 NB Ramps & Avd Presidio	.48	.41
59. Avd Estrella & Avd Presidio	.31	.26
61. El Camino Real & Avd Presidio	.42	.44
63. I-5 SB Ramps & El Camino Real	.49	.48
64. I-5 NB Ramps & El Camino Real	.36	.35
65. El Camino Real & Avd San Juan	.23	.29
67. El Camino Real & Avd San Gabriel	.25	.27
72. I-5 NB Ramps & Cristianitos	.41	.52
73. I-5 SB Ramps & Cristianitos	.33	.39
76. Cm Vera Cruz & Avd Pico	.32	.33
87. Avd Talega & Avd Vista Hermosa	.45	.28
94. El Camino Real & Cm San Clemente	.38	.45

Memorandum
Engineering

January 16, 2013

To: Jeff Hook, Principal Planner
From Tom Frank, Transportation Engineering Manager
Subject: Mobility Elements 12-20-2012 Submittal from Fehr and Peers
Copies: William Cameron, Director of Public Works
Tom Bonigut, Assistant City Engineer
Jim Holloway, Director of Community Development
Jim Pechous, City Planner

We have completed our review of Fehr and Peer's 12/20/12 submittal and offer the following comments:

1. The technical documents need to clearly explain the context of the current traffic LOS and what it will be like at build out with the existing GP densities and the proposed densities and alternate road conditions.

2. Address the changes to MPAH including:
   a. In 2009, the City sent OCTA a letter requesting the classification of Avenida La Pata north Vista Hermosa to the City Border from a Major 6-lane to a Primary 4-lane roadway. OCTA has approved the reclassification and it will become effective once the City has approved the new General Plan Circulation Element including the downgrade and the GP EIR.
   b. As a part of our Project P grant requests, we are requesting OCTA to add Camino Vista Vera Cruz from Avenida Vista Hermosa to Avenida Pico as Primary 4 lanes.

3. A General Plan implementation measure should recommend funding to prepare more detailed concepts of the alternatives so that the City Council, community and staff can evaluate what the City's vision will be of major MPAH corridors, what types of improvements can be included within the constrained rights-of-way (unless it is decided to acquire more rights-of-way) for various alternatives, what Level of Service impacts there will be for the alternatives, the costs of the alternatives and significant public involvement of adjacent residents and businesses and interest groups in the decision-making process.

   Each of the major MPAH corridors will likely involve significant costs and staff time to evaluate. The City may want to set priorities as to which one or, at most,

two major MPAH corridors will be reviewed at a time. Some corridors are further along in the process than others.

4. There are statements regarding the cause of accidents without any verification. As an example, inadequate site distance at major intersections is listed as being a contributor to rear-end collisions. Where are these intersections? If all the circumstances can not be quantified, please remove this content.

5. Page 7, consolidate Vehicular Conditions under one heading including Vehicular Facilities, Intersection, Segments, and Collisions.

6. Page 22, delete redundant content.

7. Page (p) 25,
    a. reference local state highways 74 and 241
    b. include state code number in title since it's now state law (frequent comment from PEDAL and OCBC)

8. P29, add (Camino Vera Cruz) Synchronization project.

9. P35, add sample of Cities in CA.

10. P41, delete graphic showing major arterial. It does not fit with our approach to our Mobility Element focused on balanced roadways (no bikes or peds infrastructure in graphic), and delete struck wording.

11. P43, delete graphic showing primary vehicle emphasized for reasons presented above.

12. P46, delete graphic showing secondary vehicle emphasized for reasons presented above.

13. P55, change date from "end of 2012" to "in 2013".

14. P157, under Issue No 4, delete first word and last sentence of 4th paragraph.

15. P158, under issue no 6, delete last sentence in second paragraph.

16. P159, minor edits.

17. P157, under Issue No. 4, Change title to Impacts from Traffic Conditions from I5 including Weekend and Summer Traffic Conditions. Add discussion about future conditions of I5 and impacts to our local road conditions. Similar to the

discussion presented the Public Review Draft -Encinitas draft Circulation Element page C-10.

Please call me if you have any questions or need any additional information.

\\Cd\cd\Engineering\Transportation\Circulation Element Update\Fehr and Peers submittal 12-20-12\~$gineering submittal review memo 1-16-13.docx

BRENDA MILLER'S PROPOSED CHANGES TO DRAFT CIRCULATION ELEMENT INTRODUCTION/HOMEPAGE

~~Circulation~~

~~A comprehensive transportation system provides a full range of mobility choices for all potential users. In many jurisdictions, automobile-centered transportation planning has dominated public policy and improvements with much less attention paid to transportation needs of pedestrians, bicyclists, and public transit users. The widest range of mobility choices is realized when all transportation modes are considered, rather than focusing on one mode of travel at the expense of others. This requires an efficient roadway network complemented by safe and convenient facilities for alternative modes of travel.~~

~~Like many cities, San Clemente's transportation network evolved over many years. To be effective, transportation improvements require a comprehensive, long-term perspective which considers land use, energy conservation, air quality, environmental protection and other important factors. Such improvements cannot be implemented in isolation, since there are State and Federal regulations that affect the design and construction of many transportation facilities. Additionally, development outside San Clemente can adversely affect the City's transportation facilities. Successful implementation of a comprehensive transportation network requires effective public outreach and close coordination with other public agencies.~~

Mobility and Complete Streets ~~Circulation~~

In January, 2012, San Clemente's City Council unanimously resolved " . . . to comply with the letter and spirit of California's Complete Streets law, thereby creating a balanced multimodal transportation system for all." Consequently, this transportation plan focuses on moving all people by all modes, thereby providing safe, efficient, and convenient mobility choices.

Multimodal transportation has been recognized under California law for decades and is widely held as a critical strategy to enable the State to welcome new residents, expand its economy, and enhance quality of life. By utilizing all available modes of travel-- highway, public transit, rail, non-motorized, transportation demand management--and telecommuting to enhance the movement of people and goods, California municipalities can use resources more efficiently while embracing a sustainable future.

California's legislature codified that strategy in Gov. code sections 65080, et. seq., (the 1989 Congestion Management code) and 65302(b)(2)(A, B) (the Complete Streets Act of 2008), while the Southern California Association of Governments (SCAG) Regional Transportation Plan of 2012 opened the door to a new transportation vision.

In 1989, the State legislature declared that "[a]lthough California's economy is critically dependent upon transportation, its current transportation system relies primarily upon a street and highway system designed to accommodate far fewer vehicles than are currently using the system. The lack of an integrated system and the increase in the number of vehicles are causing traffic congestion that each day results in 400,000 hours lost in traffic, 200 tons of pollutants released

into the air we breathe, and three million one hundred thousand dollars ($3,100,000) added costs to the motoring public. To keep California moving, all methods and means of transport between major destinations must be coordinated to connect our vital economic and population centers."

In 2012, SCAG released its Regional Transportation Plan, one that accommodates motor vehicles in the present while predicting a multimodal future. "Southern Californians still need their cars and highly value the freedom of using them, but because of traffic congestion and the hassle factor, more people today are seeking . . . options for locations where they can live and work that include a pleasant and convenient walking environment that reduces their reliance on their car."

Underscoring the importance of the multimodal approach by aiming ". . . to reduce per capita vehicle miles traveled over the next 25 years," SCAG acknowledges that local roads can comprise as much as 40% of the total land area. "Streets shape the neighborhoods they pass through," the Plan observes.

Such extensive use of land by the transportation system has catalyzed a reinvention of urban life so that, according to the Plan, streets "work in concert to achieve both functional mobility for multiple modes of transportation and a great sense of place . . . where bicycling and walking is simply the most logical and efficient choice for most short trips."

Indeed, California's Legislature declared in its 2008 Complete Streets Act the following:

- 41% of trips in urban areas are no more than 2 miles in length and
- 66% of urban trips that are 1 mile or less are made by automobile.

The pathway could not be more obvious. "Shifting the transportation mode share," the Legislature proclaimed, "from single passenger cars to public transit, bicycling, and walking must be a significant part of short- and long-term planning goals."

The Complete Streets perspective considers active transportation as fundamental to the success of Southern California's cities. To "make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled and to shift from short trips in the automobile to biking, walking, and use of public transit."

San Clemente residents already have embraced that strategy. Prior to our General Plan update, the City conducted a randomized telephone survey of its residents. That 2009 Vision process revealed 90% of our residents were most supportive of the City creating a pedestrian friendly town that encourages walking and biking, 85% of us want to preserve the Village Character, 82% want City policies that protect the local environment, 80% want traffic flow to improve, and 78% declared their desire for improved access to alternative transportation. It all fits together.

This Transportation (Complete Streets Mobility?) Element complements the findings of California's Legislature with the vision of San Clemente's leaders and residents. In so doing, we hope our Spanish Village by the Sea embraces a sustainable future for generations to come.