ATTACHMENT A

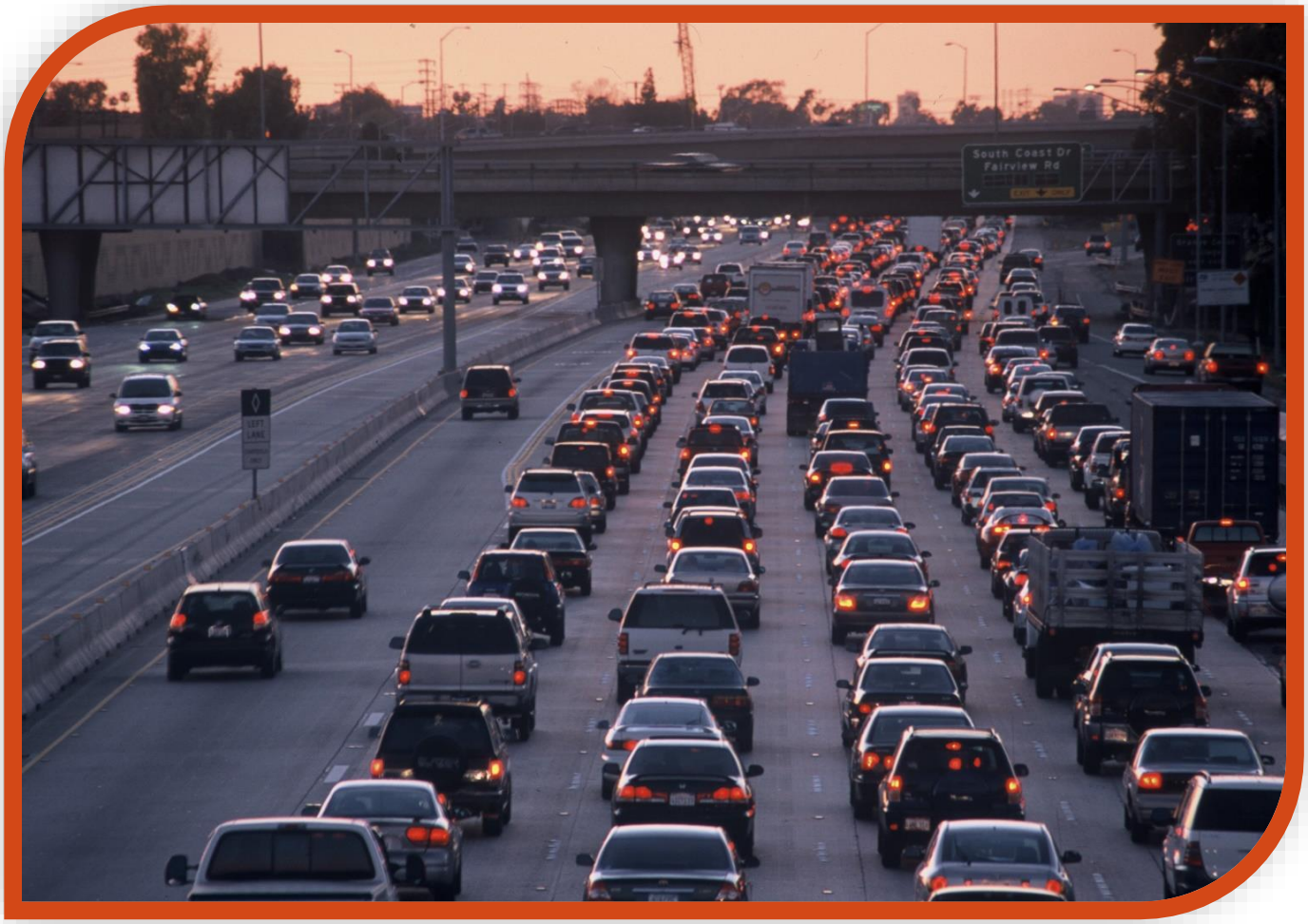
DRAFT

2019 Orange County Congestion Management Program

Orange County Transportation Authority

September 2019

www.octa.net



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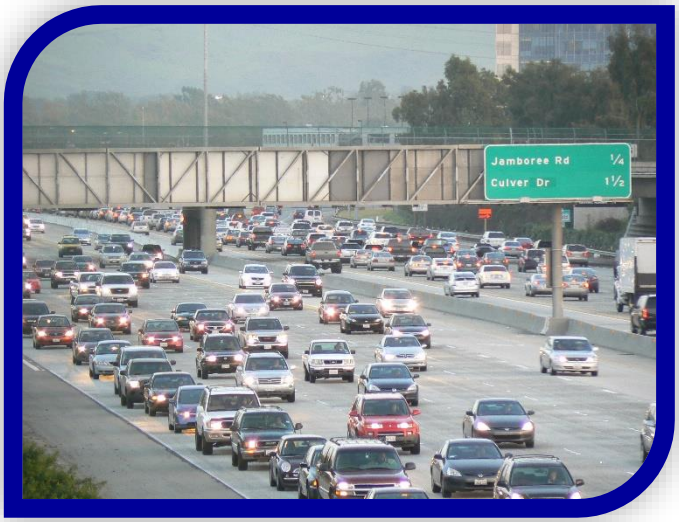
Chapter 1: Introduction

Purpose & Need

In June 1990, the passage of the Proposition 111 gas tax increase required California's urbanized areas – areas with populations of 50,000 or more – to adopt a Congestion Management Program (CMP). The following year, Orange County's local governments designated the Orange County Transportation Authority (OCTA) 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.

The passage of Assembly Bill 2419, in July 1996, provided local agencies the option to elect out of the CMP process without the risk of losing state transportation funding. However, local jurisdictions in Orange County expressed a desire to continue the existing CMP process, because the requirements were similar to those of the Orange County Measure M Growth Management Program (GMP), and because it contributes to fulfilling federal requirements for the Congestion Management Process (23 CFR 450.320), which is prepared by the Southern California Association of Governments (SCAG). The OCTA Board of Directors affirmed the decision to continue with the existing CMP process on January 13, 1997. Although the GMP ended with the sunset of Measure M, the CMP remains necessary as an eligibility requirement under Measure M2.



As mentioned above, the CMP contributes to federal Congestion Management Process requirements, which is a systematic and regionally-accepted approach for managing congestion. The federal Congestion Management Process provides accurate, up-to-date information on transportation system performance and assesses alternative strategies for congestion management that meet state and local needs.

The Congestion Management Process is also intended to serve as a systematic process that provides for consistent and effective integrated monitoring and management of the multimodal transportation system.

The process includes:

- Development of congestion management objectives;
- Establishment of measures of multimodal transportation system performance;
- Collection of data and system performance monitoring to define the extent and duration of congestion and determine the causes of congestion;
- Identification of congestion management strategies;
- Implementation activities, including identification of an implementation schedule and possible funding sources for each strategy; and
- Evaluation of the effectiveness of implemented strategies.

A federal Congestion Management Process is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). Federal requirements also state that in all TMAs, the CMP shall be developed and implemented as an integrated part of the metropolitan transportation planning process.

CMP Goals

The goals of Orange County's CMP are to support regional mobility objectives by reducing traffic congestion, to provide a mechanism for coordinating land use and development decisions that support the regional economy, and to support gas tax funding eligibility.

To meet these goals, the CMP contains a number of policies designed to monitor and address system performance issues. OCTA developed the policies that makeup Orange County's CMP in coordination with local jurisdictions, the California Department of Transportation (Caltrans), and the South Coast Air Quality Management District (SCAQMD).

State Legislation

Required Elements

California Government Code Section 65089(b) requires the CMP to include specific elements, as summarized below. The full text of the Government Code can be viewed at https://leginfo.legislature.ca.gov/faces/codes.xhtml, sections 65088-65089.10.

Traffic Level of Service Standards – §65089(b)(1)(A) & (B)

Traffic level of service (LOS) standards shall be established for a system of highways and roadways. The highways and roadway system shall be designated by OCTA and shall include, at minimum, all state highways and principal arterials. None of the designated facilities may be removed, and new state highways and principal arterials must be added, except if they are within an infill opportunity zone. The LOS must be measured using a method that is consistent with the Highway Capacity Manual. The LOS standards must

not be below level of service "E", unless the levels of service from the baseline CMP dataset were lower. If a CMPHS segment or intersection does not meet the minimum LOS standard outside an infill opportunity zone, a deficiency plan must be adopted (subject to exclusions).

Chapter 2 specifically addresses this element.

Performance Measures – §65089(b)(2)

Performance measures shall be established to evaluate the current and future performance of the transportation system. At a minimum, measures must be established for the highway and roadway system, frequency and routing of public transit, and for the coordination of transit service by separate operators. These measures will be used to support improvements to mobility, air quality, land use, and economic objectives and shall be incorporated into the Capital Improvement Program, the Land Use Analysis Program, and any required deficiency plans.

Chapter 3 specifically addresses this element.

Travel Demand – §65089(b)(3)

A travel demand element shall be established to promote alternative transportation methods, improve the balance between jobs and housing, and other trip reduction strategies. These methods and strategies may include, but are not limited to, carpools, vanpools, transit, bicycles, park-and-ride lots, flexible work hours, telecommuting, parking management programs, and parking cash-out programs.

Chapter 4 specifically addresses this element.

Land Use Analysis Program – §65089(b)(4)

A program shall be established to analyze the impacts of land use decisions on the transportation system, using the previously described performance measures. The analysis must also include cost estimates associated with mitigating those impacts. To avoid duplication, this program may require implementation through the requirements and analysis of the California Environmental Quality Act.

Chapter 5 specifically addresses this element.

Capital Improvement Program – §65089(b)(5)

The CMP shall use the performance measures described above to determine effective projects that mitigate impacts identified in the land use analysis program, through an adopted seven-year capital improvement program. This seven-year program will conform to transportation-related air quality mitigation measures and will include any projects that increase the capacity of the transportation system. Furthermore, consideration will be given to maintaining or improving bicycle access and safety within the project areas. Projects necessary for preserving investments in existing facilities may also be included.

Chapter 6 specifically addresses this element.

CMA Requirements

As Orange County's CMA, OCTA is responsible for the administration of the CMP, as well as providing data and models that are consistent with those used by the Southern California Association of Governments (SCAG). OCTA is also responsible for developing the deficiency plan processes. These requirements are described in the legislation, and are summarized below.

Modeling and Data Consistency – §65089(c)

In consultation with SCAG and local jurisdictions, OCTA shall develop a uniform database on traffic impacts for use in a countywide transportation computer model. Moreover, OCTA shall approve transportation models that will be used by local jurisdictions to determine the quantitative impacts of development on the circulation system. Every local jurisdiction's traffic model must be based on the countywide model and standardized modeling assumptions and conventions. All models and databases shall be consistent with the modeling methodology and databases used by SCAG.

Appendix G addresses this requirement.

Deficiency Plan Procedures – §65089.4

OCTA is responsible for preparing and adopting procedures for local deficiency plan development and implementation. OCTA's deficiency plan procedures incorporate a methodology for determining if deficiency impacts are caused by more than one local jurisdiction within Orange County. If required, a multi-jurisdictional deficiency plan must be adopted by all participating local jurisdictions. The procedures also provide for a conflict resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities.

Chapter 3 and Appendix C discuss this requirement in more detail.

Other Relevant Legislation

Senate Bill No. 743

Approved in 2013, Senate Bill (SB) 743 amended the California Environmental Quality Act (CEQA) Guidelines to provide an alternative to LOS for evaluating transportation impacts. Since its passing, the Governor's Office of Planning and Research (OPR) has proposed changes to the CEQA Guidelines that identify vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's transportation impacts. Since adoption by the California Natural Resources Agency in 2018, automobile delay, as measured by LOS and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA.

The intent of this legislation is to balance the need for traffic LOS standards with the need to build infill housing and mixed-use commercial developments within walking distance of mass transit facilities, downtowns, and town centers. In doing so, this legislation aims to provide greater flexibility to local governments to balance these sometimes competing needs. However, a jurisdiction may still adopt LOS as a performance standard for analyzing traffic conditions and maintaining throughput on its highway system, and the Orange County CMP still uses LOS to monitor CMPHS performance.

Chapter 2: Traffic Level of Service Standards

In 1991, the OCTA implemented an Intersection Capacity Utilization (ICU) monitoring method, developed with technical staff members from local and State agencies, for measuring the Level of Service (LOS) at CMP Highway System (CMPHS) intersections. The CMP LOS grade chart is illustrated in Figure 1.

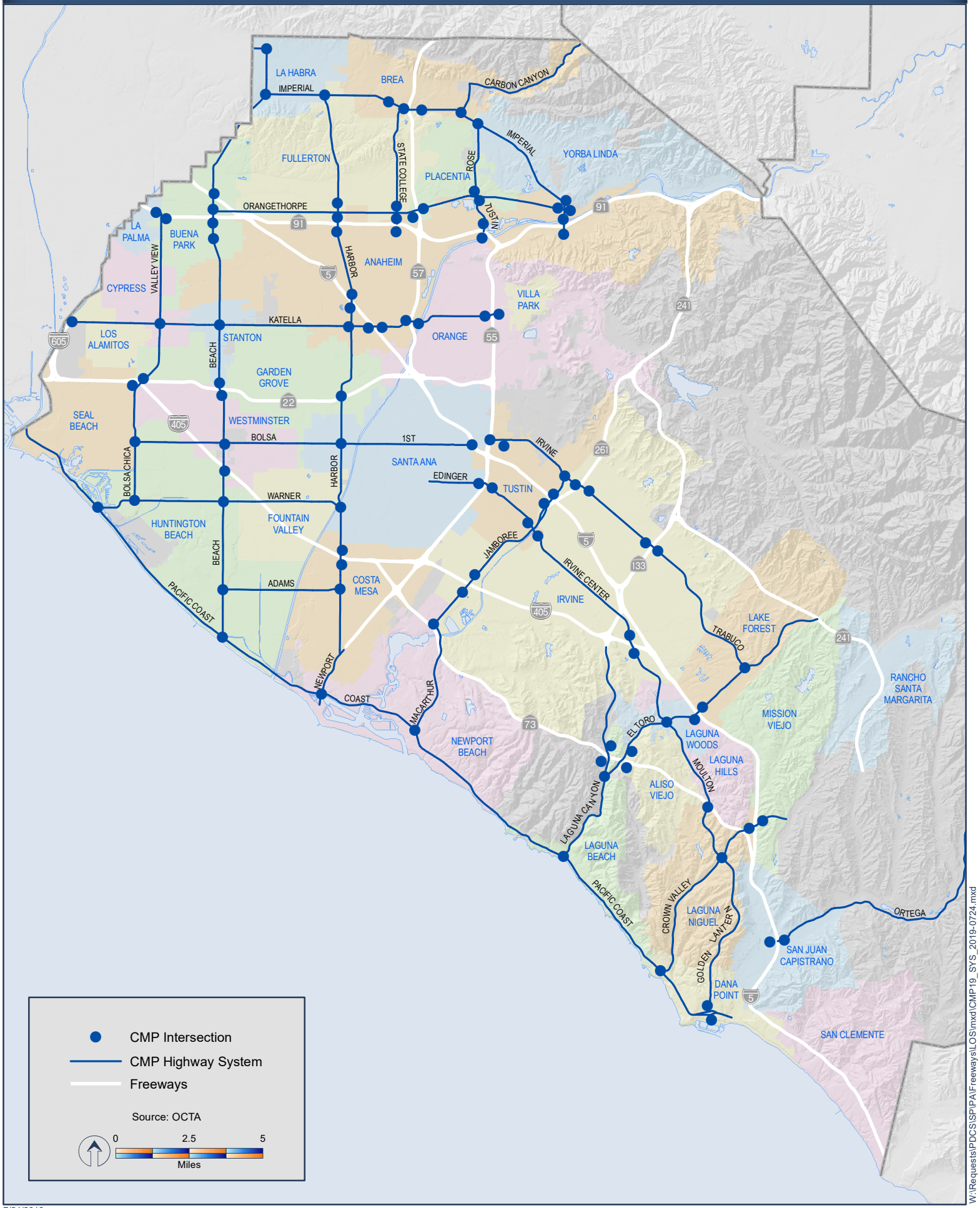
FIGURE 1: LOS Grade Chart

Level of Service	ICU Rating
A	0.00 – 0.60
B	0.60 – 0.70
C	0.70 – 0.80
D	0.80 – 0.90
E	0.90 – 1.00
F	> 1.00

The first CMP LOS measurement recorded, which was in 1992 for most CMP intersections, established the baseline for comparing future measurements. During subsequent LOS monitoring, CMP statute requires that CMPHS intersections maintain a LOS grade of 'E' or better, unless the baseline is lower than 'E'; in which case, the ICU rating cannot increase by more than 0.10. Chapter 3 discusses the ICU method in more detail.

OCTA has an established CMPHS, consisting of Orange County's State highways and the arterials included in OCTA's Smart Street network (Figure 2). If, during any monitoring period, a CMPHS intersection is determined to be performing below the LOS standards the responsible agency must identify improvements necessary to meet the LOS standards. This is accomplished either through existing plans or capital improvement programs, or through the development of a deficiency plan. This is described in more detail in Chapter 3.

Figure 2: 2019 Congestion Management Program Highway System



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The 2019 freeway monitoring results, provided by Caltrans District 12, are located in Appendix A. Caltrans is responsible for monitoring freeway performance and addressing any deficiencies on State-operated facilities. Caltrans' responsibilities include, but are not limited to:

A. Evaluating current conditions and identifying deficiencies.

B. Developing plans and strategies to address deficiencies.

C. Evaluating development projects of local and regional significance to determine whether they will impact the State transportation system and, if so, working with lead agencies to develop potential mitigation measures.

For the State transportation system, Caltrans does not use CMP thresholds and analysis methodologies to determine if significant impacts occur under CEQA. Their specific focus is on maintaining the safety of State highways. As such, their performance measures tend to focus upon freeway segment/ramps, ramp metering operations, queue lengths, and signal operations (timing, phasing, and system/series progression) metrics.

Local agencies are encouraged to coordinate with the Caltrans Local Development/ Intergovernmental Review Branch early in the development process to determine what methodologies and thresholds of significance should be used to identify impacts to the State transportation system. During the development of the Orange County CMP, OCTA works with Caltrans to obtain necessary freeway and State controlled intersection data, as well as notifying Caltrans of any deficiencies on State facilities.

Chapter 3: System Performance

Highway & Roadway System Performance Measures

This section discusses the process for determining ICU ratings, as well as how ICU ratings determine the LOS at CMPHS intersections. This method is generally consistent with the Highway Capacity Manual.

Overview of Intersection Capacity Utilization (ICU) Methodology

Traffic counts are manually collected at CMPHS intersections to initiate the ICU calculation process. The counts monitor the traffic flow, including the approach (northbound, eastbound, southbound, or westbound) and movement (left turn, through, or right turn) for each vehicle.

Each intersection has counts conducted in 15-minute increments, during peak periods in the AM (6:00-9:00) and PM (3:00-7:00) on three separate mid-week days (Tuesday, Wednesday, and Thursday). Counts are not taken during periods when irregular conditions exist (inclement weather, holidays, construction, etc.).

The highest count total during any four consecutive 15-minute count intervals within a peak period represents the peak-hour count set. For each intersection, a peak-hour count set is determined for each day's AM and PM peak period, resulting in a group of three AM peak-hour count sets and a group of three PM peak-hour count sets (one for each midweek count day).

The group of AM peak-hour count sets is averaged, as is the group of PM peak-hour count sets. The results are the volumes used to determine AM and PM volume-to-capacity (V/C) ratios for each movement through the intersection. A number of assumptions determine the capacities for each movement.

An example of an assumption used to determine capacity is the saturation flow-rate, which represents the theoretical maximum number of vehicles that are able to move through an intersection in a single lane during a green light phase. In 1991, OCTA and the technical staff members from local and State agencies agreed upon a saturation flow-rate of 1,700 vehicles per lane per hour. However, other factors can adjust this assumption.

Such factors include right turn lanes, which can increase the saturation flow-rate by 15% in specific circumstances. Right turn overlaps (signalized right turn lanes that are green

during the cross traffic's left turn movements) and free right turns (lanes in which vehicles are allowed to turn right without stopping, even when the through signal is red) are some of the circumstances that will increase the saturation flow-rate. If right turns on red are permitted, a *de facto* right turn lane (approaches that do not have designated right turn lanes, but which are at least 19 feet wide and prohibit on-street parking during peak hours) may also increase the saturation flow rate.

Roadway capacity can also be reduced under certain conditions. For example, if a lane is shared for through and turn movements, the saturation flow-rate of 1,700 could be reduced. This occurs only when the turn movement volumes reach a certain threshold that is calculated for each intersection with shared lanes. The reduction represents the slower turning movements interfering with through movements.

Finally, bicycle and pedestrian counts are conducted simultaneously with vehicle counts. Saturation flow-rate calculations may be requested to factor in bicycle and pedestrian activity for effected lanes. These calculations shall use standard reductions in accordance with the most recent Highway Capacity Manual. Reductions are only considered when field observations indicate the presence of more than 100 pedestrians per hour on one leg of an intersection.

Once the V/C ratios are determined for each movement, critical V/C ratios are calculated. Conflicting movements determine which V/C ratios are included in the calculation of the critical V/C ratios. Conflicting movements represent a situation where a movement from one approach prevents a movement from the opposite approach. For example, if through movements are being made from the southbound approach, left turn movements cannot simultaneously be made from the northbound approach. For each set of opposing approaches (north/south and east/west), the two conflicting movements with the greatest summed V/C ratios are identified. These summed V/C ratios then become known as the critical V/C ratios.

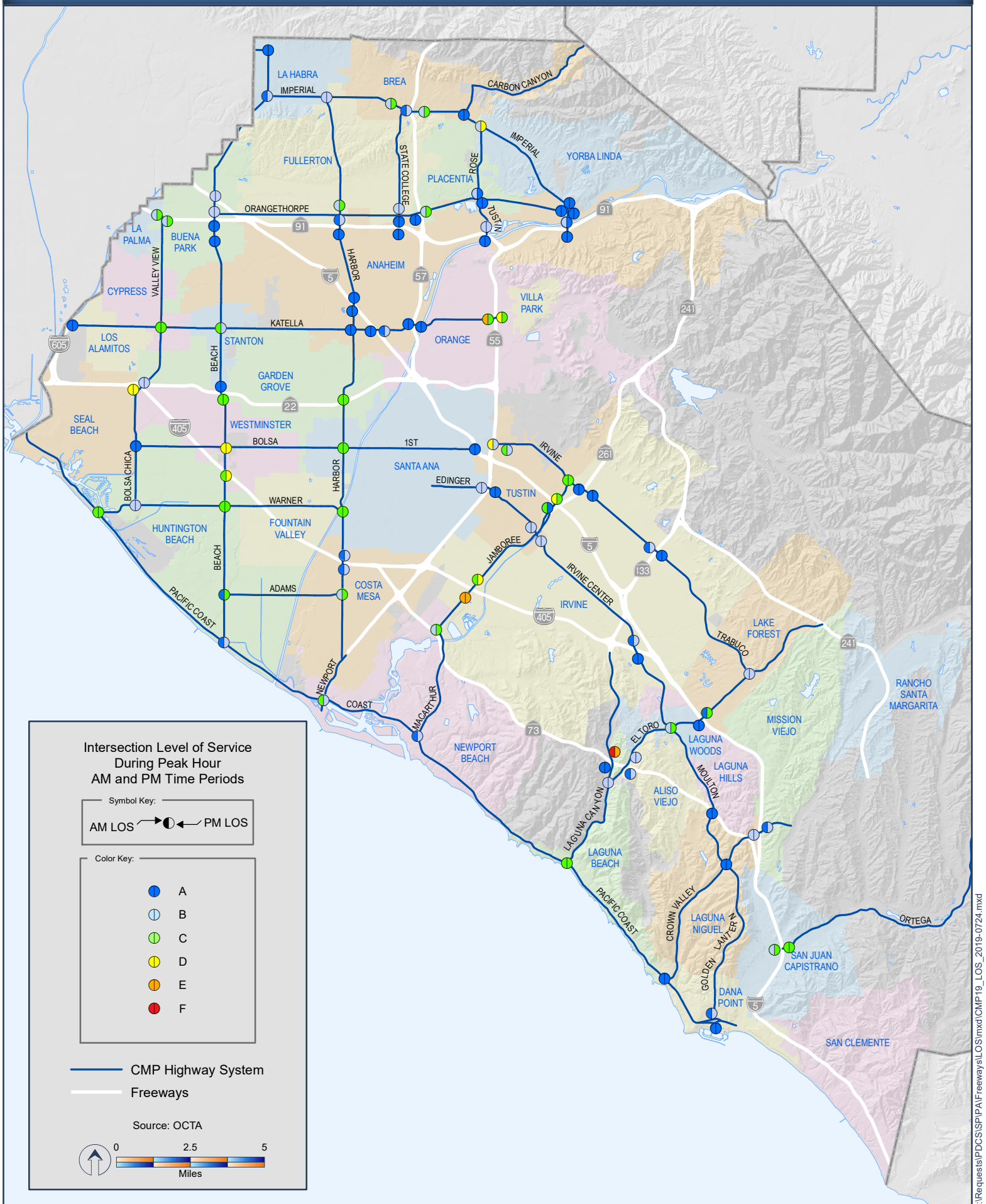
OCTA and technical staff members from local and State agencies also agreed upon a lost time factor of 0.05 in 1991. The lost time factor represents the assumed amount of time it takes for a vehicle to travel through an intersection. For each intersection, the critical V/C ratios are summed (north/south + east/west), and the lost time factor is added to the sum, producing the ICU rating for the intersection.

Based on a set of ICU rating ranges, which were agreed upon by OCTA and technical staff members from local and State agencies, grades are assigned to each intersection. The grades indicate the LOS for intersections, and are used to determine whether the intersections meet the performance standards described at the beginning of the chapter.

The 2019 LOS ratings for the CMP intersections have been mapped in Figure 3. A spreadsheet of the baseline and 2019 LOS ratings for the CMP intersections, and corresponding ICU measurements, is located in Figure 4.

Note that in Figure 4, Orange County's average ICU rating has improved over the baseline. Between 1991 and 2019, the average AM ICU improved from 0.67 to 0.60 (an improvement of 11.14 percent), and the PM ICU improved from 0.72 to 0.63 (an improvement of 12.47 percent). The ICU improvements indicate that Orange County agencies are effectively operating, maintaining, and improving the CMP Highway System.

Figure 3: 2019 CMP Intersection Level of Service



Intersection Level of Service
During Peak Hour
AM and PM Time Periods

Symbol Key:

AM LOS / PM LOS

Color Key:

- A
- B
- C
- D
- E
- F

CMP Highway System

Freeways

Source: OCTA

0 2.5 5

Miles

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*Per §65089.4, adjustment factors have been applied to City of La Habra intersections to accommodate interregional travel.

FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Anaheim	Anaheim Blvd-I-5 NB Ramp/Katella Avenue	A	0.49	A	0.39	D	0.82	B	0.6
Anaheim	Harbor Blvd./Katella Avenue	A	0.53	A	0.44	B	0.67	A	0.51
Anaheim	Harbor Boulevard/I-5 SB Ramps	A	0.29	A	0.31	A	0.31	A	0.33
Anaheim	Harbor Boulevard/SR-91 EB Ramps	A	0.46	A	0.42	A	0.52	A	0.53
Anaheim	I-5 NB Ramp/Harbor Boulevard	A	0.52	A	0.52	A	0.54	A	0.48
Anaheim	I-5 SB Ramps/Katella Avenue	A	0.48	A	0.49	A	0.41	A	0.55
Anaheim	SR-57 NB Ramps/Katella Avenue	A	0.51	A	0.38	A	0.41	A	0.45
Anaheim	SR-57 SB Ramps/Katella Avenue	A	0.52	A	0.36	A	0.51	A	0.44
Anaheim	SR-91 EB Ramp/Imperial Highway	C	0.73	A	0.53	C	0.79	A	0.52
Anaheim	SR-91 EB Ramps/State College Boulevard	B	0.69	A	0.47	D	0.82	A	0.5
Anaheim	SR-91 EB Ramps/Tustin Avenue	B	0.66	A	0.54	D	0.84	A	0.45
Anaheim	SR-91 WB Ramp/Harbor Boulevard	B	0.61	A	0.56	C	0.77	B	0.61
Anaheim	SR-91 WB Ramp/Imperial Highway	C	0.71	B	0.65	B	0.63	A	0.53
Anaheim	SR-91 WB Ramp/State College Boulevard	A	0.55	A	0.51	B	0.63	A	0.57
Anaheim	SR-91 WB Ramps/Tustin Avenue	B	0.64	B	0.68	A	0.6	B	0.69
Anaheim	Imperial Hwy Off/SB On/Orangethorpe Ave	A	0.32	A	0.44	A	0.39	A	0.47
Anaheim	Imperial Hwy NB On/Orangethorpe Ave	A	0.26	A	0.28	A	0.3	A	0.32
Anaheim	Imperial Hwy/Orangethorpe Ave Ramps	A	0.41	A	0.47	A	0.42	A	0.42
Brea	SR-57 SB Ramps/Imperial Highway	B	0.68	A	0.56	B	0.7	B	0.65
Brea	State College Boulevard/Imperial Highway	C	0.73	B	0.66	E	0.93	C	0.71
Brea	Valencia Avenue/Imperial Highway	A	0.56	A	0.47	A	0.59	A	0.51
Brea	SR-57 NB Ramp/Imperial Highway	C	0.78	B	0.66	E	0.91	C	0.75
Buena Park	Beach Boulevard/Orangethorpe Avenue	C	0.76	B	0.61	D	0.87	B	0.61
Buena Park	I-5 SB Ramps/Beach Boulevard	C	0.72	B	0.65	C	0.78	B	0.67
Buena Park	SR-91 EB Ramp/Beach Boulevard	C	0.74	A	0.56	D	0.84	A	0.57
Buena Park	SR-91 EB Ramp/Valley View Street	A	0.58	B	0.6	D	0.86	C	0.72
Buena Park	SR-91 WB Ramp/Beach Boulevard	A	0.58	A	0.44	A	0.59	A	0.48
Buena Park	SR-91 WB Ramp/Valley View Street	C	0.8	B	0.69	E	0.94	C	0.78
Costa Mesa	Harbor Boulevard/Adams Avenue	E	0.99	B	0.67	F	1.09	C	0.7
Costa Mesa	I-405 SB Ramps/Harbor Boulevard	A	0.53	A	0.54	B	0.63	B	0.62
Costa Mesa	I-405 NB Ramps/Harbor Boulevard	E	0.95	A	0.54	F	1.07	B	0.63
Cypress	Valley View Street/Katella Avenue	B	0.63	C	0.7	D	0.87	C	0.76
Dana Point	Crown Valley Parkway/Bay Drive/PCH	F	1.41	A	0.56	F	1.62	A	0.59
Dana Point	Street of the Golden Lantern/Del Prado Avenue	A	0.32	A	0.22	A	0.53	A	0.38
Dana Point	Street of the Golden Lantern/PCH	A	0.42	A	0.54	A	0.55	B	0.65
Fullerton	Harbor Boulevard/Orangethorpe Avenue	A	0.6	B	0.67	E	0.94	C	0.75
Fullerton	State College Boulevard/Orangethorpe Avenue	C	0.8	B	0.62	D	0.86	B	0.66
Garden Grove	SR-22 WB/Beach Boulevard	C	0.73	C	0.73	C	0.73	C	0.73
Garden Grove	SR-22 WB Ramp/Valley View Street	C	0.76	B	0.69	D	0.87	B	0.69
Garden Grove	SR-22 WB Ramps/Harbor Boulevard	F	1.1	C	0.7	F	1.16	C	0.7
Huntington Beach	Beach Boulevard/405 SB Ramp/Edinger Avenue	B	0.63	C	0.73	E	1.03	D	0.86
Huntington Beach	Beach Boulevard/Adams Avenue	A	0.55	A	0.58	C	0.67	C	0.7
Huntington Beach	Beach Boulevard/Pacific Coast Highway	A	0.45	A	0.59	A	0.47	B	0.65
Huntington Beach	Beach Boulevard/Warner Avenue	C	0.78	C	0.72	E	0.93	C	0.78
Huntington Beach	Bolsa Chica Street/Bolsa Avenue	B	0.66	A	0.52	A	0.53	A	0.55
Huntington Beach	Bolsa Chica Street/Warner Avenue	A	0.57	B	0.69	D	0.81	B	0.67

FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Huntington Beach	Pacific Coast Highway/Warner Avenue	D	0.81	C	0.77	B	0.72	C	0.77
Irvine	SR-133 NB Ramps/Irvine Boulevard	A	0.37	A	0.59	A	0.33	B	0.63
Irvine	SR-133 SB Ramps/Irvine Boulevard	A	0.37	A	0.47	A	0.29	A	0.53
Irvine	SR-261 NB Ramps/Irvine Boulevard	A	0.38	A	0.48	A	0.53	A	0.57
Irvine	SR-261 SB Ramps/Irvine Boulevard	A	0.42	A	0.47	A	0.4	A	0.45
Irvine	I-405 NB Ramps/Enterprise/Irvine Center Drive	E	0.95	A	0.58	A	0.39	B	0.6
Irvine	I-405 NB Ramps/Jamboree Road	F	1.03	C	0.72	C	0.78	D	0.83
Irvine	I-405 SB Ramps/Irvine Center Drive	E	1	A	0.53	A	0.57	A	0.54
Irvine	I-405 SB Ramps/Jamboree Road	E	0.92	E	0.9	B	0.66	E	0.92
Irvine	I-5 NB Ramps/Jamboree Road	A	0.54	D	0.81	C	0.75	C	0.74
Irvine	I-5 SB Ramps/Jamboree Road	A	0.4	C	0.71	A	0.35	A	0.58
Irvine	MacArthur Boulevard/Jamboree Road	B	0.61	B	0.61	B	0.69	C	0.72
La Habra*	Harbor Boulevard/Imperial Highway	D	0.81	B	0.65	D	0.86	B	0.64
La Habra*	Beach Boulevard/Imperial Highway	D	0.85	A	0.58	D	0.87	B	0.65
La Habra*	Beach Boulevard/Whittier Boulevard	A	0.33	A	0.5	A	0.29	A	0.54
Laguna Beach	El Toro Road/SR-73 NB Ramps	E	0.91	B	0.66	A	0.59	B	0.65
Laguna Beach	El Toro Road/SR-73 SB Ramps	A	0.41	A	0.44	B	0.67	B	0.6
Laguna Beach	Laguna Canyon Rd/SR-73 NB Ramps	C	0.73	F	1.01	C	0.72	E	0.94
Laguna Beach	Laguna Canyon Rd/SR-73 SB Ramps	A	0.32	A	0.42	A	0.33	A	0.57
Laguna Beach	Laguna Canyon Road/El Toro Road	F	1.54	B	0.69	F	1.16	B	0.64
Laguna Beach	Laguna Canyon Road/Pacific Coast Highway	D	0.84	C	0.74	C	0.74	C	0.72
Laguna Hills	I-5 SB Ramp/Avenida de la Carlotta/El Toro Road	F	1.18	A	0.47	F	1.13	A	0.47
Laguna Niguel	Moulton Parkway/SR-73 SB Ramps	A	0.45	A	0.43	A	0.38	A	0.48
Laguna Niguel	Moulton Parkway/Crown Valley Parkway	A	0.56	A	0.57	B	0.65	A	0.59
Laguna Woods	Moulton Parkway/El Toro Road	E	0.94	B	0.63	F	1.26	C	0.71
Lake Forest	I-5 NB/Bridger/El Toro Road	A	0.56	A	0.58	D	0.81	C	0.71
Lake Forest	Trabuco Road/El Toro Road	F	1.03	B	0.66	C	0.8	B	0.65
Los Alamitos	I-605 NB Ramps/Katella Avenue	B	0.69	A	0.41	B	0.65	A	0.5
Mission Viejo	I-5 NB Ramps/Crown Valley Parkway	B	0.68	A	0.59	B	0.69	B	0.6
Mission Viejo	I-5 SB Ramps/Crown Valley Parkway	D	0.86	B	0.61	F	1.01	B	0.69
Newport Beach	MacArthur Boulevard/Pacific Coast Highway	A	0.51	A	0.53	B	0.7	B	0.61
Newport Beach	Newport Boulevard/Pacific Coast Highway	A	0.56	C	0.76	A	0.49	B	0.66
Orange	SR-55 NB Ramps/Sacramento/Katella Avenue	C	0.75	D	0.82	D	0.85	C	0.79
Orange	SR-55 SB Ramps/Katella Avenue	C	0.73	E	0.92	E	0.95	C	0.79
Placentia	Rose Drive/Imperial Highway	E	0.95	B	0.66	E	0.99	D	0.82
Placentia	SR-57 NB Ramps/Orangethorpe Avenue	B	0.67	B	0.61	C	0.8	C	0.72
Placentia	SR-57 SB Ramps/Iowa Place/Orangethorpe Avenue	C	0.74	A	0.45	B	0.69	A	0.41
Placentia	Del Cerro Dr/Orangethorpe Ave	A	0.29	A	0.31	A	0.27	A	0.29
Placentia	Rose Dr/Del Cerro Dr	A	0.59	B	0.61	A	0.51	A	0.55
San Juan Capistrano	I-5 NB Ramps/Ortega Highway	A	0.52	C	0.71	A	0.58	C	0.73
San Juan Capistrano	I-5 SB Ramps/Ortega Highway	B	0.61	B	0.61	C	0.77	C	0.72
Santa Ana	Harbor Boulevard/1st Street	A	0.48	C	0.78	D	0.81	C	0.79
Santa Ana	Harbor Boulevard/Warner Avenue	E	0.93	C	0.78	E	0.98	C	0.79
Santa Ana	I-5 SB Ramps/1st Street	A	0.29	A	0.46	A	0.46	A	0.56
Santa Ana	SR-55 SB Ramp/Auto Mall/Edinger Avenue	D	0.9	B	0.6	F	1.06	B	0.63
Santa Ana	SR-55 SB Ramps/Irvine Boulevard	B	0.68	D	0.85	D	0.83	B	0.69

***Per §65089.4, adjustment factors have been applied to City of La Habra intersections to accommodate interregional travel.**

FIGURE 4: 2019 CMP Level of Service Chart

Jurisdiction	Intersection/Interchange	Baseline AM LOS	Baseline AM ICU	2019 AM LOS	2019 AM ICU	Baseline PM LOS	Baseline PM ICU	2019 PM LOS	2019 PM ICU
Stanton	Beach Boulevard/Katella Avenue	D	0.89	C	0.75	F	1.02	B	0.69
Tustin	Jamboree Road/Edinger Avenue-NB Ramp	A	0.28	B	0.61	A	0.32	B	0.6
Tustin	Jamboree Road/Edinger Avenue-SB Ramp	D	0.81	B	0.61	A	0.41	B	0.6
Tustin	Jamboree Road/Irvine Boulevard	B	0.65	C	0.75	A	0.59	C	0.76
Tustin	SR-55 NB Ramps/Edinger Avenue	C	0.72	A	0.44	B	0.65	A	0.56
Tustin	SR-55 NB Ramps/Irvine Boulevard	A	0.59	C	0.7	A	0.45	B	0.66
Westminster	SR-22 EB/Beach Boulevard	A	0.53	A	0.58	A	0.54	A	0.56
Westminster	Beach Boulevard/Bolsa Avenue	F	1.09	D	0.87	F	1.11	D	0.83
Westminster	Bolsa Chica Road/Garden Grove Boulevard	E	0.91	D	0.81	E	0.97	D	0.81
	COUNTY AVERAGE		**0.67**		**0.60**		**0.71**		**0.63**

Deficiency Plans

If an intersection does not meet LOS standards, then a deficiency plan is required, as described under California Government Code Section 65089.4. The deficiency plan identifies the cause of congestion, the improvements needed to solve the problem, and the cost and timing for implementing proposed improvements.

A deficiency plan process was developed by the CMP Technical Advisory Committee to provide local jurisdictions with a framework for maintaining compliance with the CMP when a portion of the CMPHS fails to meet its established LOS standard (Appendix C-1). The Deficiency Plan Decision Flow Chart (Appendix C-2) illustrates the individual steps that must be taken in order for a local jurisdiction to meet CMP deficiency plan requirements.

Deficiency plans are not required if a deficient intersection is brought into compliance within 18 months of its initial detection, using improvements that have been previously planned and programmed in the CMP Capital Improvement Program. In addition, CMP legislation specifies that the following shall be excluded from deficiency determinations:

- Interregional travel (trips with origins outside the Orange County CMPHS)
- Construction, rehabilitation, or maintenance of facilities that impact the system
- Freeway ramp metering
- Traffic signal coordination by the State or multi-jurisdictional agencies
- Traffic generated by the provision of low-income and very low-income housing
- Traffic generated by high-density residential development located within one-quarter mile of a fixed rail passenger station
- Traffic generated by any mixed-use development located within one-quarter mile of a fixed rail passenger station, but only if more than half of the land area, or floor area, of the mixed-use development is used for high-density residential housing.

Per §65089.4, the following three CMP intersections have adjustment factors applied to their traffic counts as a result of interregional travel:

- *Beach Boulevard/Whittier Boulevard (City of La Habra)*
- *Beach Boulevard/Imperial Highway (City of La Habra)*
- *Harbor Boulevard/Imperial Highway (City of La Habra)*

In 2019, one intersection exceeded the CMP level of service standard. However, it is operated and controlled by Caltrans, who is not subject to CMP conformance determinations (§65089(3)).

- *Laguna Canyon Road/State Route 73 northbound ramps (City of Laguna Beach)* – ICU 1.01 (LOS F) in the AM peak hour and ICU 0.94 (LOS E) in the PM peak hour

Caltrans continues to address congestion at CMP intersections and since 2017 has completed a project that added an additional lane to the SR-73 northbound ramps to Laguna Canyon Road. This project has improved the facility's performance since the 2017 CMP update when it had ICU 1.05 in the AM peak hour, and ICU 0.99 in the PM peak hour.

Transit System Performance Measures

As Orange County's transit provider, OCTA continually monitors the frequency and routing of its transit services. Bus and rail transit are essential components of Orange County's transportation system, and are important tools for achieving a balanced multi-modal transportation system capable of maintaining level of service standards.

The CMP performance measures provide an index of the effectiveness and efficiency of Orange County's fixed-route bus and commuter rail services. ACCESS, OCTA's complementary paratransit service, is not included separately in the CMP analysis because it is an extension of the fixed-route service.

In 2012, the OCTA Board adopted "Systemwide Bus Service Standards & Policies" that are the basis for the performance analysis included in the CMP. These standards and policies allow for identification of areas in need of additional resources in transit service. Furthermore, once adequate transit operating funds are available, the transit performance measures work to ensure that bus and rail services meet demand and are coordinated between counties.

Fixed-Route Bus Service

OCTA's fixed route bus service includes local routes, express routes, community routes, limited-stop/BRT routes, rail feeder and shuttle routes.

- Local routes (numbered 1 to 99) operate primarily along arterial corridors serving multiple bus stops spaced about 1/4 –mile apart, serving multiple destinations such as residential areas, employment centers, educational institutions and health care facilities. They are the most heavily used bus routes and, in many cases, require additional trips during peak commute periods. OCTA also provides Xpress service which are local routes with limited-stop trips.
- Express routes (numbered 200 to 299 and 700 to 799) provide higher speed point-to-point service along freeways and HOV facilities providing peak period commuter transportation to employment centers. Relatively few stops are made

and service is generally designed to match typical work-time spreads. OCTA's 200-series intracounty express routes operate within Orange County while the 700-series intercounty services connect Orange County with neighboring counties such as Los Angeles and Riverside County.

- Community routes (numbered 100 to 199) are typically shorter distance services that may act as community circulators and are less direct compared to the local routes. They often provide connections to the local and express bus network. Community routes typically operate throughout the service day.
- Limited-stop/BRT routes (numbered 500 to 599) provide trips with higher average speeds and connect with other OCTA bus networks and modes. The speed advantage is realized by making fewer stops which are spaced about ¾-mile to 1 mile apart. Local bus riders making longer distance trips are among the transit users that are attracted to limited-stop/BRT service. Like local and community routes, these services operate throughout the service day.
- Rail feeder/Stationlink routes (numbered 400 to 499) provide first and last mile trips during peak hours to and from employment centers for commuters using Metrolink commuter rail service. Feeder trips are scheduled to match specific train trips and, like express routes, operate only during commute hours.
- Shuttle routes (numbered 600 to 699) serve special event venues or provide additional connections to community points of interest as a traffic mitigation tool. Shuttle routes may be point-to-point and seasonal in nature such as OCTA's Orange County Fair Express network or confined to a single community perhaps using a short distance circular route structure.

As of June 2019, OCTA's fixed route bus service has a total of 60 routes. The network is comprised of 38 local routes, six express routes (three intra- and three inter-county routes), seven community routes, three limited-stop routes, and six rail feeder routes. Services changes planned for October 2019 would reduce the number of rail feeder routes to five with one additional shuttle service provided during the OC Streetcar construction.

OC Bus 360

In late 2015, the OCTA Board of Directors endorsed a comprehensive action plan, known as OC Bus 360 in order to address declining ridership. This effort included a comprehensive review of current and former rider perceptions, a peer review panel that reviewed OCTA's performance and plans, new branding and marketing tactics tied to rider needs, upgraded bus routes and services to better match demand and capacity, technology changes to improve the passenger experience, and pricing and other revenue changes to stimulate ridership and provide new funding. This action plan included the following elements:

- Implementation of new faster bus routes
- Extensive redeployment of services in June and October 2016 to improve efficiencies and build ridership
- Grants to local agencies for transit services tailored to community needs
- A promotional fare
- Rollout of new technologies, including mobile ticketing and real-time bus arrival information
- Extensive marketing, public outreach, and promotional campaigns
- Continued implementation of cost reduction strategies, such as increased contract fixed-route operations.

Recent ridership appears to be declining at a much slower rate after the implementation of OC Bus 360. Upcoming efforts will focus on additional bus service reallocations to improve ridership and productivity.

Performance Standards and Policies

The section that follows describes OCTA's Performance Standards & Policies for vehicle load, vehicle headway, on-time performance, and service accessibility. These standards were adopted by the OCTA Board of Directors and are summarized in Figure 6. While service standards guide the delivery of service, performance measures evaluate the effectiveness of the service.

Performance Measure 1: Vehicle Headway

Vehicle Headway is the time interval between vehicles on a route that allows passengers to gauge how long they will have to wait for the next vehicle. Vehicle headway varies by mode and time of day, and is primarily determined by bus ridership. However, it is also limited by the availability of resources to operate the system.

Peak Weekday Vehicle Headway Standard Compliance

Service	Yes	No	Partial
Local Routes	27	10	1
Bus Rapid Transit / Limited	3	0	0
Community Routes	4	3	0
Express Routes	6	0	0
Rail Feeder Routes	6	0	0

Off Peak Weekday Vehicle Headway Standard Compliance

Service	Yes	No	Partial
Local Routes	14	13	11
Bus Rapid Transit / Limited	0	0	3
Community Routes	2	3	2
Express Routes	N/A		
Rail Feeder Routes	N/A		

Overall, 76.6 percent and 33.3 percent of routes system-wide were compliant in the peak and off-peak periods, respectively. Some routes could benefit from a decrease in headways (increases in bus frequency), however, there are some routes which have optimal headways that are below the standard due to existing ridership. With changing conditions, OCTA monitors the ridership and its associated optimal headway laying out a priority for improvement pending funding availability.

Performance Measure 2: Vehicle Load

OCTA's Vehicle Load applies to the maximum number of passengers allowed on a service vehicle in order to ensure the safety and comfort of customers. The load standard is expressed as the ratio of passengers to the number of seats on the vehicle and it varies by mode and by time of day. OCTA passenger loads should not exceed 130 percent of seating capacity during any one-hour peak period on individual local fixed-routes or 100 percent on any express trip. Currently, all routes have less than 100 percent average peak loads based on an analysis of 2018 Automatic Passenger Counter data.

Performance Measure 3: On-time Performance (OTP)

OCTA defines On-Time Performance as not more than five minutes late. On-Time Performance is measured at the time-point. A trip is on-time as long as it does not leave the time-point ahead of the scheduled departure time and no more than five minutes later than the scheduled departure time.

The On-Time Performance Service Standard is measured at the system line level, of which 85% of the actual departure times will meet the definition for being on-time. Exclusions from On-Time Performance are early departure times at time-points located within Free Running time route segments and Stationlink routes are measured for trips scheduled to arrive at Metrolink stations in the evening. System-wide On-Time Performance for FY17-18 was 84.6%.

Performance Measure 4: Service Accessibility

Service Accessibility is the percentage of population in proximity to bus service. OCTA's standard is that 90% of Orange County jobs and population are within ½ mile of OCTA bus services. A review of service accessibility conducted in 2018 shows that 87 % of jobs and

residents are within ½ mile of OCTA bus services. In 2016, OCTA began reallocating bus service from areas experiencing low demand to areas of highest demand as part of the OC Bus 360° program. While this has slightly lowered accessibility in areas of low transit propensity, the OC Bus 360° program has slowed ridership decline and attracted riders by optimizing efficiency and effectiveness of the bus system.

Another part of the OC Bus 360° initiative is the new OC Flex microtransit pilot program. OC Flex is an on-demand, general population, curb-to-curb shared shuttle service serving two zones in Orange County. Microtransit mitigates the loss of bus service in areas experiencing low demand while providing key connections to other transit services. Should the pilot prove successful, OCTA will consider further expansion of the program in other zones.

Meeting Transit Service Standards and Policies

The lack of ongoing operating revenues, competing resources (e.g., increasing resources dedicated to paratransit costs), and decreases in ridership contribute to OCTA's inability to meet all standards and policies. The OCTA Short-Range Transit Plan outlines priorities for meeting transit policies and standards as new resources become available. The priorities for improvements are (in order):

1. **Addressing on-time performance issues**, particularly for low-income and/or minority routes. The poorest performing routes should be addressed first, along with routes with long headways (30 minutes or more) where customers are more likely to time their arrival at stops based on the scheduled times.

2. **Addressing loads**, focusing on routes with the greatest number of trips where loads exceed 130 percent of capacity.

3. **Addressing headway issues**. Applying the headway standards will be an iterative process, because many of the routes with headways exceeding the maximum standard have low demand and/or cycle times that do not fit a 30-minute or 60-minute schedule. Routing adjustments may be needed to maximize the efficiency of the schedules, or exceptions may be allowed in specific cases.

4. **Addressing coverage and service span issues**, adding service in areas where gaps in coverage have been identified and land use pattern and/or demographics suggest that there is demand for transit service.

FIGURE 6: Performance Standards and Policies

PERFORMANCE STANDARDS AND POLICIES

TIME PERIOD DEFINITIONS:

WEEKDAY PEAK PERIODS: 6 A.M. - 9 A.M. AND 3 P.M. - 6 P.M.
OFF-PEAK: WEEKDAYS OFF-PEAK ARE THE PERIODS PRECEDING OR FOLLOWING THE DEFINED A.M. AND P.M. PEAK PERIODS, AND ALL-DAY ON WEEKENDS. AND ALL-DAY ON WEEKENDS AND HOLIDAYS

HEADWAYS:

Policy: Service operates on Local Routes (1-99 series) and Bus Rapid Transit/Limited Stop Routes (500-series) every 30-minutes or better during weekdays and weekends.
Service operates on Community Routes (100-199 series) every 60-minutes or better during weekdays and weekends.
Service operates on Express Routes (200-series and 700-series), and Rail Feeder Routes (400-series) weekdays only with a minimum of two trips scheduled in the morning and afternoon commute periods.
Service operates on Special Event Routes (600-series) for a limited period of time with service scheduled to meet the needs of the event.

TARGET HEADWAY STANDARDS:	LOCAL ROUTES (1-99 series)	BUS RAPID TRANSIT LIMITED (500-series)	COMMUNITY ROUTES (100-199 series)	EXPRESS ROUTES (200, 700-series)	RAIL FEEDER ROUTES (400-series)	SPECIAL EVENTS (600-series)
PEAK WEEKDAY PERIOD (6-9 A.M., 3-6 P.M.):	30 MIN	30 MIN	60 MIN	(2)	(2)	N/A
OFF-PEAK/WEEKENDS:	30 MIN	30 MIN	60 MIN	N/A	N/A	N/A

(2) Minimum two one-way trips per peak weekday period.

LOADING STANDARDS:

Policy: The average of all loads during the weekday peak periods should not exceed achievable vehicle capacity which is 20 to 26 passengers for intermediate size buses; 44 to 49 passengers for low floor 40-foot buses; and 83 passengers for 60-foot buses.

Vehicle Type	Average Passenger Capacities				
	Seated	Standing	Total	Maximum Load Factor	Maximum Load Factor %
26' Cut-Away Bus	20	N/A	20	1.0	100%
31' Cut-Away Bus	26	N/A	26	1.0	100%
*40' Standard Bus**	34	10	44	1.3	130%
*40' Standard Bus**	36	10	46	1.3	130%
*40' Standard Bus**	37	11	48	1.3	130%
*40' Standard Bus**	38	11	49	1.3	130%
60' Articulated Bus	64	19	83	1.3	130%

**OCTA standard 40-foot buses vary in seats provided, from 34-seats on buses used for freeway express service to 38-seats on LNG buses.*

TARGET LOAD STANDARDS BY SERVICE TYPE:	LOCAL ROUTES (1-99 series)	BUS RAPID TRANSIT LIMITED (500-series)	COMMUNITY ROUTES (100-199 series)	EXPRESS ROUTES (200, 700-series)	RAIL FEEDER ROUTES (400-series)	SPECIAL EVENTS (600-series)
WEEKDAY PEAK PERIOD(% SEATS):	130% (3)	130% (3)	130% (3)	100%	130%	N/A
OFF-PEAK/WEEKEND (% SEATS):	100%	100%	100%	N/A	N/A	N/A

(3) 130% average during peak one hour in each peak period; maintain 125% average in remaining two hours in each peak

ON-TIME PERFORMANCE STANDARD:

Defined: Measured at the timepoint, a trip is on-time as long as it does not leave the timepoint ahead of the scheduled departure time, and no more than 5-minutes later than the scheduled departure time.

Standard: At the system level, 85% of the actual departure times will meet the definition for being On-Time. Change to 85% at the line level as reliable On-Time Performance measuring system becomes available.

Exclusions: Early departure times at timepoints located within Free Running time route segments will be considered to be On-Time. Stationlink routes OTP is measured for trips scheduled to arrive at Metrolink Stations in the P.M.

TARGET ACCESSIBILITY STANDARD:

% OF SERVICE AREA POPULATION & JOBS WITHIN 1/2 MILE OF A BUS ROUTE: 90% OR HIGHER

Coordination of Transit Service with Other Carriers

OCTA coordinates the delivery of transit services with several transit agencies. They include the City of Laguna Beach, the City of Irvine, Riverside Transit Agency, Norwalk Transit System, Los Angeles County Metropolitan Transportation Authority, Long Beach Transit, Foothill Transit, North County Transit District, Omnitrans, Anaheim Transportation Network, various specialized charter bus services, and commuter rail services. OCTA also coordinates with cities during the planning and implementation of Project V community circulators.

Additionally, OCTA coordinates schedules and bus stops with neighboring agencies and commuter rail services. Internet-based services such as Google transit include respective service schedules and facilitate transfers between the various systems where feasible.

Commuter Rail Service

Metrolink is Southern California's commuter rail system that links residential communities to employment and activity centers. Metrolink is operated by the Southern California Regional Rail Authority (SCRRA), a joint powers authority of five member agencies representing the counties of Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Currently, Metrolink provides service on seven routes, covering 535 miles through six counties in Southern California. On an average weekday, there are 171 trains serving nearly 43,000 passenger trips at 61 stations. Orange County plays an important and growing role within this system.

As one of the five SCRRA member agencies, OCTA administers and funds Orange County's portion of the Metrolink commuter rail system. Orange County's share of Metrolink service covers 68 route miles and sees approximately 16,000 average weekday boardings, comprising more than 40 percent of Metrolink's total system-wide boardings. There are 11 stations in Orange County that serve a total of 54 one-way trips each weekday on three lines:

- **Orange County (OC) Line**: Daily service from Los Angeles Union Station to Oceanside;
- **Inland Empire-Orange County (IEOC) Line**: Daily service from San Bernardino and Riverside through Orange to Oceanside; and
- **91 / Perris Valley (91/PV) Line**: Daily service from South Perris through Riverside and Fullerton to Los Angeles Union Station.

In 2006, Metrolink Weekend service was introduced on the OC and IEOC Lines, with increased service during the summer travel season. In July 2014, weekend service was added on the 91/PV Line, providing four trains between Riverside and Los Angeles Union Station. Weekend ridership varies considerably dependent upon the season and local events, but generally the OC, IEOC and 91/PV Lines combined carry a total of approximately 4,000 riders per weekend day.

OCTA and other local agencies provide free transfers to local bus service to deliver Metrolink passengers to their final destinations. OCTA has six dedicated StationLink bus routes that connect with Orange County Metrolink stations in Orange, Santa Ana, Tustin, and Irvine. The iShuttle in Irvine has six routes that provide peak hour connections to and from the Tustin and Irvine stations. Anaheim Resort Transportation provides transfers at the Anaheim Regional Transportation Intermodal Center (ARTIC) to various destinations. These local transit connections offer Metrolink ticket holders free, easy connections between stations and major employment and activity centers, with schedules designed to meet Metrolink weekday train arrivals and departures.

In addition to Metrolink, Amtrak's Pacific Surfliner provides daily service with 24 trains between Los Angeles Union Station and downtown San Diego as an alternative for commuters. Within Orange County, Amtrak station stops include Fullerton, Anaheim, Santa Ana, Irvine, San Juan Capistrano, and San Clemente Pier.

Future Transit Improvements

Completed in 2018, the OC Transit Vision is a 20-year plan for enhancing and expanding public transit service in Orange County. The Vision identifies near-term and long-term projects and programs that can make transit a more compelling travel option for Orange County residents and visitors. The Vision recognizes that transit is important for Orange County, both today and in the future. Transit can provide a sustainable, accessible, and affordable mobility option that serves different markets and travel needs in a variety of ways.

The projects outlined in the OC Transit Vision are grouped into three timeframes: short-term (2018-2022), mid-term (2023-2032), and long-term (2033+). This phasing approach recognizes the project development process for major capital investments, such as Bus Rapid Transit or extensions to OC Streetcar, as well as existing and projected OCTA revenues. The recommendations from the OC Transit Vision were included in OCTA's 2018 Long-Range Transportation Plan.

The OC Transit Vision continues the process of modernizing transit by moving away from a "onesize-fits-all" approach. As described in the OC Transit Vision, some corridors with high demand may benefit from a high-capacity transit service such as streetcar or rapid bus. For example, serving the high concentration of employment in the Irvine Business Complex might be better accomplished using Freeway Bus Rapid Transit rather than standard buses on arterial roadways. Areas with a low density of transit demand might be addressed through flexible "microtransit" such as the pilot OC Flex service. These modernized transit services benefit from technological advances as they strive to serve existing and potential Orange County transit customers while controlling costs.

Commuter Rail Service Improvements

Following the completion of the Metrolink Service Expansion Program (MSEP) improvements in 2012, OCTA deployed a total of ten new Metrolink intra-county trains operating between Fullerton and Laguna Niguel/Mission Viejo, primarily during midday and evening hours. Efforts to increase ridership through a redeployment of the trains without significantly impacting operating costs have been underway since 2014. In April 2015, a schedule change added a connection between the 91/PV Line and the intra-county service at Fullerton to allow a later southbound peak evening departure from Los Angeles to Orange County. Staff will continue to monitor ridership on these trains; data through May 2019 shows a 49 percent increase in ridership since the improvement was implemented, from 130 boardings in FY 2015-16 to 194 boardings averaged for the first 11 months of FY 2018-19.

Part of OCTA's re-deployment plan involves providing new trips from Orange County to Los Angeles in accordance with the current shared use agreement between BNSF, Metrolink and its member agencies. Metrolink plans to implement the following service improvements in FY 2019-20:

- OC Line (weekday service): Replace three midday intracounty round trips from Laguna Niguel/Mission Viejo to Fullerton, with two midday round trips from Laguna Niguel/Mission Viejo to Los Angeles, and one evening round trip from Oceanside to Los Angeles.
- 91/PV Line (weekday service): Extended two existing round trips from Perris – South to Riverside – Downtown, to Los Angeles Union Station, via Orange County.
- 91/PV Line (weekend service): Extend two existing round trips from Los Angeles to Riverside – Downtown, further east to Perris – South.

OCTA is also working to design and construct a new Metrolink station in the City of Placentia that will help accommodate ridership growth from service expansion. Funding for the MSEP is being provided though Measure M2, Orange County's half-cent sales tax for transportation improvements.

Chapter 4: Transportation Demand Management

Transportation Demand Management (TDM) strategies are geared toward increasing vehicle occupancy, promoting the use of alternative modes, reducing the number of automobile trips, decreasing overall trip lengths, and improving air quality. The adoption of a TDM ordinance was required of every local jurisdiction for Orange County's 1991 Congestion Management Program (CMP). The adoption of these ordinances is no longer a statutory requirement, however OCTA continues to encourage local jurisdictions to maintain these ordinances as a means of reducing greenhouse gas emissions.

TDM Ordinances

The model TDM ordinance, prepared by OCTA, promotes carpools, vanpools, alternate work hours, park and ride facilities, telecommuting, and other traffic reduction strategies. OCTA updated the model ordinance in 2001 to reflect the adoption of Rule 2202 by the South Coast Air Quality Management District (SCAQMD), which requires employers with 250 or more employees at a worksite to develop an emission reduction program to help meet an emission reduction target set by the SCAQMD.

Principal provisions of the TDM model ordinance are as follows:

- Applies to non-residential public and private development proposals expected to generate more than 250 employees;
- Contains a methodology for determining projected employment for specified land use proposals;
- Includes mandatory facility-based development standards (conditions of approval) that apply to proposals that exceed the established employment threshold;
- Presents optional provisions for implementing operational TDM programs and strategies that target the property owner or employer, and requires annual reporting on the effectiveness of programs and strategies proposed for facilities;

- Contains implementation and monitoring provisions; and
- Includes enforcement and penalty provisions.

Several jurisdictions have adopted ordinances that go beyond those contained in the model TDM ordinance. Such strategies include:

- Encouraging employers to establish and help subsidize telecommuting, provide monetary incentives for ridesharing, and implementing alternative work hour programs;
- Proposing that new development projects establish and/or participate in Transportation Management Associations (TMAs);
- Implementing bus loading facilities at worksites;
- Implementing pedestrian facilities such as sidewalks, paved pathways, and pedestrian grade separations over arterial streets to connect worksites to shopping, eating, recreation, parking, or transit facilities; and
- Participating in the development of remote parking facilities and the high-occupancy vehicles (i.e., shuttles, etc.) to serve them.

Countywide TDM Strategies

TDM efforts in Orange County are not just limited to the implementation of the local TDM ordinance provisions. Countywide services and programs, as described below, also help to manage demand on the multimodal system.

Transit/Shuttle Services

Local fixed-route bus service comprises the largest portion of OCTA's transit services. In addition, OCTA provides feeder bus service to commuter rail (Metrolink) stations. Express bus service provides patrons with longer routes that utilize freeways to connect residential areas to Orange County's main employment centers. OCTA also provides community routes for connecting to the local and express bus networks, as well as limited-stop routes for higher speed connections to other OCTA modes and networks. ACCESS is OCTA's shared-ride service for people who are unable to use the regular, fixed-route bus service because of functional limitations caused by a disability. These passengers must be certified by OCTA to use the ACCESS system by meeting the Americans with Disabilities Act (ADA) eligibility criteria.

OCTA Vanpool Program

The OCTA Vanpool Program assists commuters working in Orange County. OCTA coordinates with commuters, employers, and private vanpool operators to organize and sustain vanpools, and provides a monthly subsidy for each vanpool to offset vehicle lease and maintenance costs. In addition to Caltrans-maintained park-and-ride lots, OCTA maintains park-and-ride lots throughout the County and supports the Guaranteed Ride Home Program. OCTA provides trip planning tools on their website and on the phone through the 5-1-1 service. OCTA has also provided the necessary data to Google Transit® to integrate trip planning with other Southern California transit operators. These efforts are designed to reduce single-occupancy commuting.

Transportation Management Associations

Transportation Management Associations (TMAs) are comprised of groups of employers who work together to solve mutual transportation problems by implementing programs to increase average vehicle ridership. Presently, Orange County has TMAs located in the following areas:

- Irvine (Spectrumotion)
- Anaheim (Anaheim Transportation Network)

Park-and-Ride Lots

Currently there are 29 park-and-ride lots in Orange County providing 10,383 parking spaces. Of the 29 lots, 11 are located at Metrolink stations, accounting for 7,604 of the parking spaces. Also, six of the lots are located at OCTA transit centers, which account for 1,492 parking spaces. The remaining 1,287 spaces are at Caltrans-managed lots.

Park-and-ride lots serve as transfer points for commuters to change from one mode of travel (usually single-occupancy automobile) to another, higher capacity mode (bus, train, carpool, or vanpool). Providing a convenient system of park-and-ride transfer points throughout Orange County encourages ridesharing and the use of higher capacity transit systems, which improves the efficiency of the transportation system. Park-and-ride lots

are also a natural companion to Orange County's network of High Occupancy Vehicle (HOV) lanes and transitways on the freeways.

Parking Cash-Out Programs

Parking cash-out programs are employer-funded programs that provide cash incentives to employees who do not drive to work. The most effective programs provide an incentive equal to the full cost of employee parking. State law requires certain employers who provide subsidized parking for their employees to offer a cash allowance in lieu of a parking space. This law is called the parking cash-out program. The intent of the law is to reduce vehicle commute trips and emissions by offering employees the option of "cashing out" their subsidized parking space and taking transit, biking, walking or carpooling to work.

Guaranteed Ride Home Program

Employers throughout Orange County have the option to participate in OCTA's Guaranteed Ride Home Program. This program provides reliability for those who rideshare but are faced with an unexpected illness, at-home emergency, or unexpected overtime.

Complete Streets

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: "In order to fulfill the commitment to reduce greenhouse gas emissions, 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 (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit."

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

> (A) Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.
>
> (B) For the purposes of this paragraph, "users of streets, roads, and highways" means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

As identified in OCTA's Pedestrian Action Plan, OCTA staff has developed a Complete Streets Checklist to consider bicycle and pedestrian accommodation in projects planned and designed by OCTA. This provides a method to illustrate decision-making and

transparency in ultimate design outcomes and avoid conflict when a project is ready for construction.

Active Transportation

In 2016, the League of American Bicyclists renewed their designation of Orange County as a Bronze-level bike friendly community. This was in recognition of the collective county-level and local efforts to improve conditions for bicycling in Orange County. This includes countywide regional bikeway planning, recent bicycle and pedestrian safety marketing campaigns, and encouraging first/last mile linkages to transit for both bicyclists and pedestrians. In support of these efforts, OCTA allocates funding to local agencies through the Bicycle Corridor Improvement Program (BCIP) call for projects.

The broad serving active transportation program addresses topics serving people bicycling and walking. Nearing completion is OC Active, the countywide active transportation plan. OC Active includes the first effort to analyze pedestrian needs throughout Orange County. OC Active provides maps of high need pedestrian areas and maps future bikeways for each jurisdiction. The plan guides active transportation investments and enables local agencies to secure funding for infrastructure and non-infrastructure improvements countywide. Further efforts by OCTA include collaboration with law enforcement, education and public health representatives to improve conditions for walking and biking. Work has included educational campaigns, hosting educational webinars for community members and local agency staff, hosting a quarterly meeting of a Bicycle and Pedestrian Subcommittee with public membership, collaboration with the Southern California Association of Governments on the *Go Human* region-wide active transportation safety campaign, and briefings directly to local police about new and relevant laws. OCTA provides support to cities pursuing active transportation funding through workshops and lessons learned to address local needs.

Forthcoming work includes collaboration during education and encouragement activities at local schools, and master planning methods to increase rates of walking and biking to schools by Orange county youth.

Motorist Aid and Traffic Information System (511)

Orange County's 511 service is a one-stop source for up-to-the-minute travel information, advisories and trip planning information. Traffic and transit updates are provided via the free Go511 application, calling 511, or visiting Go511.com.

The 511 Motorist Aid and Travelers' Information System (MATIS) helps commuters outsmart traffic with the following services:

- Real-time traffic speed, congestion & incident information
- Live freeway cameras & roadwork advisories
- Bus & rail trip planner
- Scheduled departures for 70+ transit agencies in SoCal
- Carpool & ride matching information
- Park & Ride lot locations (website/phone)
- Airport information (website only)
- Bike maps, tips & resources (website only)
- Local weather conditions (website only)

The 511 system can be accessed around the clock throughout Orange County by calling 511. Accessing the Go511 system from other surrounding counties is also available by calling 877.22.go511.

Freeway Construction Mitigation

OCTA and Caltrans developed a comprehensive public outreach program for commuters impacted by construction projects and improvements on Orange County freeways. The outreach program alleviates traffic congestion during freeway construction by providing up-to-date ramp, lane, and bridge closure information; as well as suggestions for alternate routes and travel modes.

Outreach efforts include public workshops, open houses, fast fax construction alerts, flyers and newsletters, as well as other materials and presentation events. Also, OCTA's website (www.octa.net), and the Orange County Freeway Construction Helpline (1-800 724-0353), make detour and closure information available. In addition, most jurisdictions implement traffic management plans to alleviate roadway congestion during construction.

Chapter 5: Land Use Impact Analysis

The Congestion Management Program (CMP) Traffic Impact Analysis (TIA) measures impacts of proposed development projects on the CMP Highway System (CMPHS). Each jurisdiction in Orange County was allowed to select either the process outlined in the CMP TIA guidelines (Appendix B-1), or their existing traffic-environmental analysis process, as long as consistency is maintained with the CMP TIA guidelines.

Since 1994, the selected TIA process has been consistently applied to all development projects meeting the adopted trip generation thresholds (i.e., 2,400 or more daily trips, and 1,600 or more daily trips for projects that directly access the CMPHS). These traffic impact analyses focus on:

- Identifying locations where, and the extent to which, trips generated by the proposed project caused CMPHS intersections to exceed their Level of Service (LOS) standards;
- Assessing feasible mitigation strategies capable of reducing the identified impact, thereby maintaining the LOS standard; and,
- Utilizing existing environmental processes and inter jurisdictional forums to conduct cooperative, inter jurisdictional discussion when proposed CMP mitigation strategies included modifications to roadway networks beyond the jurisdiction's boundaries; and/or, when a proposed development was identified that will increase traffic at CMPHS locations outside the jurisdiction's boundaries.

However, OCTA does allow exemptions from this requirement for selected categories of development projects, consistent with State legislation (Appendix B-2 for a listing of exempt projects). Additionally, the biennial reporting process enables jurisdictions to report any locations where projected measurements would not meet the CMPHS LOS standards as well as to discuss the projected impacts from development projects undergoing CMP traffic impact analyses. All jurisdictions in Orange County comply with the CMP land use coordination requirement.

Chapter 6: Capital Improvement Program

The Capital Improvement Program (CIP) is a seven-year program of projects and programs that is adopted by each Orange County jurisdiction and integrated into a countywide CIP by the OCTA. It includes projects that will help to maintain or improve traffic conditions on the Congestion Management Program Highway System (CMPHS) and adjacent facilities. In addition to traditional capital projects, which preserve investments in existing facilities, the CIP can include projects that increase the capacity of the multi-modal system and provide air quality benefits, such as transit projects. Consistency with statewide standards is emphasized in order for projects in the CIP to compete for State funding.

The CIP projects, prepared by local jurisdictions for inclusion in the Orange County CMP, mitigate transportation impacts identified in the Land Use Impact Analysis component of the CMP, and preserve and maintain CMPHS infrastructure. Many types of CIP projects have been submitted by local jurisdictions in the past, including freeway ramp widenings, transportation systems management projects such as bus turnouts, intersection improvements, roadway widenings, signal coordination projects, and roadway resurfacing projects.

Each Orange County jurisdiction's CIP is included in Appendix E, which is published separately and provided on OCTA's website at www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/. All projects in the CIP that are State or federally funded, or locally funded but of regional significance, are included in the Orange County portion of the Federal Transportation Improvement Program (FTIP), and are consistent with the Regional Transportation Plan (RTP), both of which are approved by SCAG.

Projects that significantly increase Single Occupant Vehicle (SOV) capacity in the region are monitored and regulated by the federal government, and should be developed consistent with the federal Congestion Management Process. In carrying out this process, SCAG identifies SOV capacity increasing projects in the FTIP that are at least one-mile in length. These projects, if at least partially funded by federal sources, require the lead agency to document and demonstrate the consideration of alternative Transportation

Systems Management/Transportation Demand Management (TSM/TDM) strategies during the alternatives analysis. Those that are considered safety, operational, or bottleneck improvements are exempt from this process.

Lastly, based upon a resolution by the California Transportation Commission (G-17-22), the Measure M program of projects is being included in the 2019 CMP (by reference) in order to satisfy the CMP requirement of this resolution. For a listing of the Measure M program of projects please see Appendix F.

Chapter 7: CMP Conformance

As Orange County's Congestion Management Agency, the Orange County Transportation Authority (OCTA) is legislatively required to monitor the implementation of all elements of the Congestion Management Program (CMP), and biennially determine conformance. In so doing, OCTA consults with local jurisdictions.

OCTA determines if the local jurisdictions are in conformance with the CMP by monitoring the following:

- Consistency with level of service standards;
- Adoption of Capital Improvement Programs;
- Adoption and implementation of a program to analyze the impacts of land use decisions, including an estimate of the costs associated with mitigating those impacts; and
- Adoption and implementation of deficiency plans when highway and roadway level of service standards are not maintained.

OCTA gathers local traffic data to determine the levels of service (LOS) at intersections throughout the CMP Highway System (CMPHS), as discussed in Chapter 2. In addition, the local jurisdictions complete a set of checklists, developed by OCTA, that guide them through the CMP conformity process (Appendix D). The checklists address the legislative requirements of the CMP, including land use coordination, the Capital Improvement Program, and transportation demand management strategies.

Based on the LOS data and CMP checklists completed by the local jurisdictions, as summarized in Figure 7, the following was determined for the 2019 CMP Update:

Level of Service

The LOS data, collected by OCTA, was provided to local jurisdictions for verification. A few discrepancies in LOS reporting occurred as a result of slight variations in the data collection methodology used by the cities and OCTA, or due to erroneously reported

intersection geometry. Any discrepancies in the LOS reporting were resolved through an interactive, cooperative process between the cities and OCTA. The data shows that all local jurisdictions are in compliance with the established LOS standards.

Capital Improvement Program

All local jurisdictions submitted adopted seven-year capital improvement programs. The CIPs included projects to maintain or improve the traffic LOS on the CMPHS, or adjacent facilities which benefit the CMPHS.

Land Use Coordination

All local jurisdictions have adopted CMP Traffic Impact Analysis (TIA) processes for analyzing the impacts of land use decisions on the CMP Highway System. All local jurisdictions have applied their TIA processes to development projects that met the CMP minimum threshold of 2,400 or more daily trips (1,600 or more trips per day for development projects that will directly access the CMPHS).

Deficiency Plans

Based on the data exhibited in Figure 7, all non-exempt intersections on the CMP highway system were found in compliance with LOS requirements. Therefore, no deficiency plans were required for the 2019 CMP.

Regional Consistency

To ensure consistency between CMPs within the SCAG region, OCTA submits each biennial update of the Orange County CMP to SCAG. As the regional agency, SCAG evaluates consistency with the Regional Transportation Plan and with the CMPs of adjoining counties, and incorporates the program into the Federal Transportation Improvement Program (FTIP), once consistency is determined.

FIGURE 7: Summary of Conformance

Jurisdiction	Capital Improvement Program	Deficiency Plan	Land Use	Level of Service	2019 Compliance
Aliso Viejo *	Yes	N/A	Yes	N/A	Yes
Anaheim	Yes	N/A	Yes	Yes	Yes
Brea	Yes	N/A	Yes	Yes	Yes
Buena Park	Yes	N/A	Yes	Yes	Yes
Costa Mesa	Yes	N/A	Yes	Yes	Yes
Cypress	Yes	N/A	Yes	Yes	Yes
Dana Point	Yes	N/A	Yes	Yes	Yes
Fountain Valley *	Yes	N/A	Yes	N/A	Yes
Fullerton	Yes	N/A	Yes	Yes	Yes
Garden Grove	Yes	N/A	Yes	Yes	Yes
Huntington Beach	Yes	N/A	Yes	Yes	Yes
Irvine	Yes	N/A	Yes	Yes	Yes
La Habra	Yes	N/A	Yes	Yes	Yes
La Palma*	Yes	N/A	Yes	N/A	Yes
Laguna Beach	Yes	N/A	Yes	Yes	Yes
Laguna Hills	Yes	N/A	Yes	Yes	Yes
Laguna Niguel	Yes	N/A	Yes	Yes	Yes
Laguna Woods	Yes	N/A	Yes	Yes	Yes
Lake Forest	Yes	N/A	Yes	Yes	Yes
Los Alamitos	Yes	N/A	Yes	Yes	Yes
Mission Viejo	Yes	N/A	Yes	Yes	Yes
Newport Beach	Yes	N/A	Yes	Yes	Yes
Orange	Yes	N/A	Yes	Yes	Yes
Placentia	Yes	N/A	Yes	Yes	Yes
Rancho Santa Margarita *	Yes	N/A	Yes	N/A	Yes
San Clemente *	Yes	N/A	Yes	N/A	Yes
San Juan Capistrano	Yes	N/A	Yes	Yes	Yes
Santa Ana	Yes	N/A	Yes	Yes	Yes
Seal Beach *	Yes	N/A	Yes	N/A	Yes
Stanton	Yes	N/A	Yes	Yes	Yes
Tustin	Yes	N/A	Yes	Yes	Yes
Villa Park *	Yes	N/A	Yes	N/A	Yes
Westminster	Yes	N/A	Yes	Yes	Yes
Yorba Linda *	Yes	N/A	Yes	N/A	Yes
County *	Yes	N/A	Yes	N/A	Yes

*No CMP intersections within jurisdiction

Appendix A: Freeway Level of Service

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	SAN DIEGO COUNTY LINE	4	68	4084	1060	0.96	7.22	16	B	63	4247	1126	0.94	7.22	19	C	
																	138,500
1.000	AVENIDA CALIFIA	4	67	4084	1060	0.96	7.22	16	B	63	4247	1126	0.94	7.22	19	C	
																	147,100
1.627	EL CAMINO REAL	4	69	4181	1151	0.91	7.22	17	B	66	3898	988	0.99	7.22	16	B	
																	160,100
2.306	AVENIDA PRESIDIO	4	68	4844	1222	0.99	7.22	19	C	65	5330	1353	0.98	7.22	22	C	
																	162,100
2.663	AVENIDA PALIZADA	4	67	5445	1424	0.96	7.22	22	C	64	5197	1364	0.95	7.22	22	C	
																	187,500
3.393	AVENIDA PICO	4	61	4008	1026	0.98	7.22	17	B	63	3897	990	0.98	7.22	16	B	
																	200,100
5.801	CAMINO ESTRELLA	5	65	7404	1923	0.96	7.22	25	C	66	6412	1628	0.98	7.22	20	C	
																	242,200
6.780	JCT RTE 1	4	67	6031	1597	0.94	4.25	24	C	64	4786	1245	0.96	4.25	20	C	
																	234,300
7.344	CAMINO CAPISTRANO	4	67	6450	1755	0.92	4.25	27	D	50	5917	1546	0.96	4.25	32	D	
																	252,100
8.795	SAN JUAN CREEK	4	66	7532	2057	0.92	4.25	32	D	62	6584	1688	0.98	4.25	28	D	
																	259,200
9.604	JCT. RTE. 74	4	67	6916	1850	0.93	4.27	28	D	63	6030	1542	0.98	4.27	25	C	
																	278,600
10.910	JUNIPERO SERRA	5	66	8995	2414	0.93	3.98	30	D	63	8534	2186	0.98	3.98	28	D	
																	286,800
12.490	JCT RTE 73	4	67	5694	1515	0.94	3.98	23	C	64	6040	1585	0.95	3.98	25	C	
																	248,400
12.943	AVERY PARKWAY	4	66	5486	1403	0.98	3.98	22	C	64	5547	1484	0.93	3.98	24	C	
																	255,700
13.776	CROWN VALLEY	4	65	7092	1931	0.92	3.50	30	D	65	7306	1890	0.97	3.50	30	D	
																	302,200
15.217	OSO PARKWAY	4	47	6734	1871	0.90	3.50	41	E	64	6733	1707	0.99	3.50	27	D	
																	315,500
16.528	LA PAZ ROAD	4	56	7917	2139	0.93	3.50	39	E	63	7308	1870	0.98	3.50	30	D	
																	312,200
17.472	ALICIA PARKWAY	6	46	9840	2538	0.97	3.50	37	E	68	8164	2107	0.97	3.50	21	C	
																	333,100
18.685	NIGUEL/EL TORO	5	58	11346	2891	0.98	3.50	41	E	66	8775	2324	0.94	3.50	29	D	
																	354,700
19.890	LAKE FOREST	6	64	12290	3161	0.97	3.50	34	D	63	9077	2328	0.97	3.50	25	C	
																	280,000
21.304	JCT. RTE. 405	3	65	6065	1628	0.93	3.37	34	D	61	4402	1171	0.94	3.37	26	C	
																	153,300
22.213	ALTON PARKWAY	5	67	7162	1829	0.98	3.37	22	C	63	7903	2069	0.95	3.37	27	D	
																	201,100

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
23.120	JCT. RTE. 133	4	61	7020	1803	0.97	5.50	30	D	61	7083	1866	0.95	5.50	31	D	
																	243,700
23.942	SAND CANYON	5	69	7660	2008	0.95	4.97	24	C	62	8331	2193	0.95	4.97	29	D	
																	255,800
24.991	JEFFREY ROAD	5	51	8494	2198	0.97	4.97	35	E	53	7765	2071	0.94	4.97	32	D	
																	271,300
26.583	CULVER DRIVE	6	45	9096	2401	0.95	4.97	36	E	49	8028	2103	0.95	4.97	29	D	
																	294,400
27.589	JAMBOREE ROAD	5	51	8294	2182	0.95	4.97	35	E	43	6833	1752	0.98	4.97	33	D	
																	316,400
28.250	TUSTIN RANCH	5	65	8967	2355	0.95	4.97	30	D	64	7633	1928	0.99	4.97	25	C	
																	324,600
29.091	RED HILL AVENUE	5	52	9247	2435	0.95	4.97	38	E	50	7845	2107	0.93	4.97	35	D	
																	324,300
29.616	NEWPORT AVENUE	5	57	9588	2468	0.97	4.97	35	E	51	8326	2097	0.99	4.97	34	D	
																	279,500
30.263	JCT. RTE. 55	4	53	7409	1916	0.97	5.50	37	E	48	5674	1478	0.96	5.50	32	D	
																	329,500
30.8	1ST STREET	5	62	10453	2706	0.97	5.50	36	E	41	7771	2060	0.94	5.50	41	E	
																	352,600
31.23	4TH STREET	5	66	10424	2659	0.98	5.50	33	D	59	8113	2040	0.99	5.50	29	D	
																	359,400
32.3	17TH STREET	5	64	10883	2775	0.98	5.50	36	E	26	9269	2370	0.98	5.50	75	F	
																	362,500
33.2	MAIN STREET	5	57	9947	2600	0.96	5.50	37	E	49	8751	2226	0.98	5.50	37	E	
																	366,000
35	CHAPMAN	5	69	6998	1819	0.96	7.00	22	C	55	7606	2026	0.94	7.00	31	D	
																	253,100
35.1	STATE COLLEGE	5	71	5808	1495	0.97	7.00	17	B	59	6768	1796	0.94	7.00	25	C	
																	240,900
35.6	GENE AUTRY	5	70	6775	1742	0.97	7.00	21	C	59	7758	2009	0.97	7.00	28	D	
																	240,900
36.48	KATELLA	4	67	5864	1502	0.98	9.60	23	C	49	6652	1716	0.97	9.60	37	E	
																	264,800
37.38	HARBOR	4	68	4427	1150	0.96	9.60	18	B	40	6372	1615	0.99	9.60	42	E	
																	263,900
37.7	BALL	4	67	6575	1690	0.97	9.60	26.4	D	53	7910	2012	0.98	9.60	40	E	
																	276,300
38.9	LINCOLN	5	68	6141	1582	0.97	9.50	19	C	63	8238	2086	0.99	9.50	28	D	
																	265,400
39.3	EUCLID	4	69	6051	1561	0.97	9.60	24	C	62	7594	1918	0.99	9.60	32	D	
																	259,800
40.5	BROOKHURST	4	69	5929	1530	0.97	9.60	23	C	64	7054	1807	0.98	9.60	30	D	
																	241,000

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
40.98	LA PALMA	5	71	6217	1635	0.95	9.60	19	**C**	67	7454	1910	0.98	9.60	24	**C**	
																	241,000
41.8	MAGNOLIA	4	69	3829	1006	0.95	9.60	15	**B**	67	4433	1127	0.98	9.60	18	**B**	
																	121,100
42.5	ORANGETHORPE	6	70	5529	1470	0.94	9.35	15	**B**	68	6014	1538	0.98	9.35	16	**B**	

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	SAN DIEGO COUNTY LINE	4	62	3595	955	0.94	7.22	16	B	68	4532	1160	0.98	7.22	18	B	
																	138,500
1.000	AVENIDA CALIFIA	4	61	3504	914	0.96	7.22	16	B	67	4462	1158	0.96	7.22	18	B	
																	147,100
1.627	EL CAMINO REAL	4	65	3394	862	0.98	7.22	14	B	67	4858	1252	0.97	7.22	19	C	
																	160,100
2.306	AVENIDA PRESIDIO	4	55	3588	920	0.98	7.22	17	B	66	5390	1436	0.94	7.22	23	C	
																	162,100
2.663	AVENIDA PALIZADA	5	57	3576	926	0.97	7.22	13	B	69	5337	1399	0.95	7.22	17	B	
																	187,500
3.393	AVENIDA PICO	4	70	3301	895	0.92	7.22	13	B	69	4578	1251	0.91	7.22	19	C	
																	200,100
5.801	CAMINO ESTRELLA	4	70	4512	1243	0.91	7.22	18	C	69	5567	1426	0.98	7.22	21	C	
																	242,200
6.780	JCT RTE 1	5	70	3553	945	0.94	4.25	11	B	72	5106	1301	0.98	4.25	15	B	
																	234,300
7.344	CAMINO CAPISTRANO	5	70	4921	1357	0.91	4.25	16	B	69	7249	1873	0.97	4.25	22	C	
																	252,100
8.795	SAN JUAN CREEK	4	62	6625	1741	0.95	4.25	29	D	67	8329	2110	0.99	4.25	32	D	
																	259,200
9.604	JCT. RTE. 74	4	65	5246	1437	0.91	4.27	23	C	64	6854	1755	0.98	4.27	28	D	
																	278,600
10.910	JUNIPERO SERRA	5	64	6500	1785	0.91	3.98	23	C	66	8232	2143	0.96	3.98	26	D	
																	286,800
12.490	JCT RTE 73	4	69	5787	1543	0.94	3.98	23	C	68	6419	1620	0.99	3.98	24	C	
																	248,400
12.943	AVERY PARKWAY	4	65	5278	1410	0.94	3.98	22	C	66	5787	1492	0.97	3.98	23	C	
																	255,700
13.776	CROWN VALLEY	4	66	5671	1504	0.94	3.50	23	C	65	5813	1504	0.97	3.50	24	C	
																	302,200
15.217	OSO PARKWAY	4	69	7289	1917	0.95	3.50	28	D	69	7617	1955	0.97	3.50	29	D	
																	315,500
16.528	LA PAZ ROAD	4	67	6695	1746	0.96	3.50	27	D	67	7842	2039	0.96	3.50	31	D	
																	312,200
17.472	ALICIA PARKWAY	4	64	6651	1722	0.97	3.50	27	D	62	8338	2122	0.98	3.50	35	D	
																	333,100
18.685	NIGUEL/EL TORO	5	66	7504	1982	0.95	3.50	24	C	41	8829	2270	0.97	3.50	45	F	
																	354,700
19.890	LAKE FOREST	6	66	8456	2215	0.95	3.50	23	C	63	10034	2565	0.98	3.50	28	D	
																	280,000
21.304	JCT. RTE. 405	3	64	4559	1215	0.94	3.37	26	C	66	4567	1183	0.97	3.37	24	C	
																	153,300
22.213	ALTON PARKWAY	4	57	6771	1773	0.95	3.37	32	D	65	6477	1690	0.96	3.37	26	D	

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
23.120	JCT. RTE. 133	5	47	7153	1907	0.94	5.50	33	D	54	7061	1838	0.96	5.50	28	D	
																	243,700
23.942	SAND CANYON	5	59	8581	2215	0.97	4.97	31	D	68	7905	2094	0.94	4.97	25	C	
																	255,800
24.991	JEFFREY ROAD	5	43	8826	2304	0.96	4.97	44	E	61	10045	2551	0.98	4.97	34	D	
																	271,300
26.583	CULVER DRIVE	5	44	8418	2143	0.98	4.97	40	E	52	9082	2327	0.98	4.97	37	E	
																	294,400
27.589	JAMBOREE ROAD	6	45	8246	2146	0.96	4.97	33	D	48	8810	2307	0.95	4.97	33	D	
																	316,400
28.250	TUSTIN RANCH	5	52	9256	2378	0.97	4.97	37	E	62	9328	2370	0.98	4.97	31	D	
																	324,600
29.091	RED HILL AVENUE	5	51	9557	2442	0.98	4.97	39	E	64	9757	2534	0.96	4.97	32	D	
																	324,300
29.616	NEWPORT AVENUE	6	46	9799	2550	0.96	4.97	38	E	63	10303	2683	0.96	4.97	29	D	
																	279,500
30.263	JCT. RTE. 55	4	40	6419	1632	0.98	5.50	42	E	61	6646	1759	0.94	5.50	30	D	
																	329,500
30.8	1ST STREET	5	48	8585	2287	0.94	5.50	39	E	51	8972	2280	0.98	5.50	37	E	
																	352,600
31.23	4TH STREET	5	41	8653	2273	0.95	5.50	46	F	61	8980	2306	0.97	5.50	31	D	
																	359,400
32.3	17TH STREET	5	51	8956	2372	0.94	5.50	38	E	59	8999	2310	0.97	5.50	32	D	
																	362,500
33.2	MAIN STREET	4	26	6346	1681	0.94	5.50	66	F	37	6276	1622	0.97	5.50	45	F	
																	366,000
35	CHAPMAN	6	58	7940	2045	0.97	7.00	24	C	65	7898	2072	0.95	7.00	22	C	
																	253,100
35.1	STATE COLLEGE	5	37	8309	2136	0.97	7.00	48	F	62	8019	2078	0.96	7.00	28	D	
																	240,900
35.6	GENE AUTRY	5	55	10332	2640	0.98	7.00	40	E	60	10444	2643	0.99	7.00	36	E	
																	240,900
36.48	KATELLA	4	56	6836	1777	0.96	9.60	33	D	60	6201	1566	0.99	9.60	27	D	
																	264,800
37.38	HARBOR	5	62	8252	2141	0.96	9.60	29	D	67	7690	1948	0.99	9.60	24	C	
																	263,900
37.7	BALL	4	53	7834	1991	0.98	9.60	39	E	66	7109	1856	0.96	9.60	29	D	
																	276,300
38.9	LINCOLN	4	51	7311	1921	0.95	9.50	39	E	61	7129	1801	0.99	9.50	31	D	
																	265,400
39.3	EUCLID	4	41	6796	1758	0.97	9.60	45	E	61	6349	1636	0.97	9.60	28	D	
																	259,800
40.5	BROOKHURST	4	44	6816	1761	0.97	9.60	42	E	65	7027	1810	0.97	9.60	29	D	
																	241,000

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
40.98	LA PALMA	6	41	7196	1920	0.94	9.60	33	**D**	69	7390	1898	0.97	9.60	19	**C**	
																	241,000
41.8	MAGNOLIA	6	50	6846	1760	0.97	9.60	25	**C**	68	6789	1757	0.97	9.60	18	**C**	
																	121,100
42.5	ORANGETHROPE	4	64	4263	1117	0.95	9.35	18	**C**	68	4434	1143	0.97	9.35	18	**B**	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R0.000	LOS ANGELES/ORANGE COUNTY LINE	3	57	4734	1289	0.92	8.70	31	D	64	4330	1101	0.98	8.70	24	C	
																	100,000
R0.650	JCT. RTE. 405	3	57	4734	1289	0.92	8.70	31	D	64	4330	1101	0.98	8.70	24	C	
																	142,500
R2.653	WESTMINSTER, KNOTT AVENUE/GOLDEN WEST STREET INTERCHANGE	3	52	5024	1312	0.96	8.70	35	E	64	4733	1200	0.99	8.70	26	D	
																	150,500
R3.587	GARDEN GROVE, JCT. RTE. 39	3	46	6237	1587	0.98	4.90	47	F	55	5802	1488	0.97	4.90	37	E	
																	183,400
R4.812	GARDEN GROVE, MAGNOLIA STREET INTERCHANGE	4	62	6924	1754	0.99	4.90	29	D	65	6646	1700	0.98	4.90	27	D	
																	196,400
R5.817	GARDEN GROVE, BROOKHURST STREET INTERCHANGE	4	41	7014	1862	0.94	4.90	47	F	59	6827	1737	0.98	4.90	30	D	
																	202,100
R6.811	GARDEN GROVE, EUCLID STREET INTERCHANGE	4	45	6039	1592	0.95	4.90	36	E	56	5749	1453	0.99	4.90	27	D	
																	216,500
R7.829	GARDEN GROVE, HARBOR BOULEVARD	4	23	6216	1586	0.98	4.70	71	F	29	5938	1556	0.95	4.70	55	F	
																	223,500
R8.822	GARDEN GROVE, GARDEN GROVE BOULEVARD INTERCHANGE	4	24	5546	1474	0.94	4.70	63	F	25	5386	1400	0.96	4.70	57	F	
																	229,600
R9.729	ORANGE, MANCHESTER AVENUE/ CITY DRIVE INTERCHANGE	2	34	3203	834	0.96	4.70	50	F	35	3174	835	0.95	4.70	49	F	
																	235,500
R10.478	SANTA ANA, JCT. RTES. 5 AND 57; SANTA ANA/ ORANGE FREEWAYS	2	26	3188	817	0.98	4.50	64	F	51	3170	833	0.95	4.50	33	D	
																	146,700
R10.992	SANTA ANA, MAIN STREET	2	58	3542	896	0.99	4.50	32	D	57	3699	949	0.97	4.50	34	D	
																	146,700
R11.825	ORANGE, GLASSELL STREET INTERCHANGE	3	58	5032	1275	0.99	4.50	30	D	51	5682	1434	0.99	4.50	38	E	
																	141,800
R12.866	TUSTIN AVENUE INTERCHANGE	5	54	7242	1878	0.96	4.50	28	D	61	8029	2022	0.99	4.50	27	D	
																	118,400
R13.164	JCT. RTE. 55, COSTA MESA FREEWAY																

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R0.000	LOS ANGELES/ORANGE COUNTY LINE	2	66	2342	612	0.956699	8.70	19	C	54	2251	584	0.96	8.70	23	C	
																	100,000
R0.650	JCT. RTE. 405	3	67	4039	1061	0.95	8.70	22	C	66	3912	1003	0.98	8.70	21	C	
																	142,500
R2.653	WESTMINSTER, KNOTT AVENUE/GOLDEN WEST STREET INTERCHANGE	3	65	4223	1120	0.94	8.70	24	C	58	4178	1086	0.96	8.70	26	D	
																	150,500
R3.587	GARDEN GROVE, JCT. RTE. 39	3	60	5266	1352	0.97	4.90	31	D	57	5140	1325	0.97	4.90	32	D	
																	183,400
R4.812	GARDEN GROVE, MAGNOLIA STREET INTERCHANGE	4	64	6114	1624	0.94	4.90	26	C	62	6317	1596	0.99	4.90	26	D	
																	196,400
R5.817	GARDEN GROVE, BROOKHURST STREET INTERCHANGE	4	63	6133	1608	0.95	4.90	26	D	61	6634	1679	0.99	4.90	28	D	
																	202,100
R6.811	GARDEN GROVE, EUCLID STREET INTERCHANGE	4	62	6809	1800	0.95	4.90	30	D	56	7411	1908	0.97	4.90	35	D	
																	216,500
R7.829	GARDEN GROVE, HARBOR BOULEVARD	5	65	6885	1804	0.95	4.70	23	C	59	7353	1890	0.97	4.70	26	D	
																	223,500
R8.822	GARDEN GROVE, GARDEN GROVE BOULEVARD INTERCHANGE	4	64	6571	1716	0.96	4.70	27	D	36	7105	1875	0.95	4.70	53	F	
																	229,600
R9.729	ORANGE, MANCHESTER AVENUE/ CITY DRIVE INTERCHANGE	4	66	5751	1532	0.94	4.70	24	C	53	5522	1483	0.93	4.70	29	D	
																	235,500
R10.478	SANTA ANA, JCT. RTES. 5 AND 57; SANTA ANA/ ORANGE FREEWAYS	3	63	5366	1412	0.95	4.50	31	D	46	5060	1304	0.97	4.50	39	E	
																	146,700
R10.992	SANTA ANA, MAIN STREET	3	67	3734	963	0.97	4.50	20	C	59	3846	1008	0.95	4.50	23	C	
																	146,700
R11.825	ORANGE, GLASSELL STREET INTERCHANGE	3	58	6037	1622	0.93	4.50	38	E	50	5693	1445	0.98	4.50	39	E	
																	141,800
R12.866	TUSTIN AVENUE INTERCHANGE	4	63	7076	1892	0.93	4.50	31	D	56	6630	1699	0.98	4.50	31	D	
																	118,400
R13.164	JCT. RTE. 55, COSTA MESA FREEWAY																

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	TUSTIN, FINLEY AVENUE																
																	55,700
0.267	JCT. RTE. 1																
																	55,700
1.513	COSTA MESA, EAST 17TH STREET																
																	87,800
1.82	COSTA MESA, HARBOR BOULEVARD																
																	71,700
2.021	COSTA MESA, 19TH STREET																
																	94,700
R2.772	COSTA MESA, VICTORIA/22ND STREETS	4	65	4228	1138	0.93	3.60	18	**B**	65	3462	923	0.94	3.60	14	**B**	
																	133,400
R4.022	COSTA MESA, MESA DRIVE	4	60	6063	1569	0.97	3.60	27	**D**	59	4501	1152	0.98	3.60	20	**C**	
																	153,600
R4.77	JCT. RTE. 73, CORONA DEL MAR FREEWAY	3	36	4647	1212	0.96	3.60	46	**F**	63	3037	799	0.95	3.60	17	**B**	
																	153,600
R5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	3	49	4375	1156	0.95	2.10	32	**D**	56	2995	779	0.96	2.10	19	**C**	
																	162,300
R6.99	SANTA ANA, MAC ARTHUR BOULEVARD	4	53	6856	1858	0.92	5.80	36	**E**	39	4704	1271	0.93	5.80	34	**D**	
																	282,000
R7.85	SANTA ANA, DYER ROAD	4	59	6946	1808	0.96	5.80	32	**D**	38	5769	1474	0.98	5.80	40	**E**	
																	288,600
R9.437	SANTA ANA, EDINGER AVENUE	4	55	7388	1909	0.97	5.80	36	**E**	48	7069	1834	0.96	5.80	39	**E**	
																	303,900
R9.96	TUSTIN, MC FADDEN STREET INTERCHANGE	5	64	8657	2231	0.97	5.80	29	**D**	61	8102	2068	0.98	5.80	28	**D**	
																	287,500
10.45	TUSTIN, JCT. RTE. 5, SANTA ANA FREEWAY	3	63	4662	1231	0.95	7.70	27	**D**	50	5218	1341	0.97	7.70	37	**E**	
																	238,600
10.979	SANTA ANA, FOURTH STREET INTERCHANGE	4	65	6410	1712	0.94	7.70	27	**D**	56	7245	1906	0.95	7.70	35	**E**	
																	259,400
11.785	TUSTIN, SEVENTEENTH STREET INTERCHANGE	4	66	6274	1596	0.98	7.70	25	**C**	50	7001	1803	0.97	7.70	37	**E**	
																	251,500
12.967	JCT. RTE. 22 WEST, GARDEN GROVE FREEWAY	4	68	8197	2102	0.97	5.90	32	**D**	68	7895	2013	0.98	5.90	30	**D**	
																	263,700
13.7	CHAPMAN AVENUE	4	64	6139	1698	0.90	5.90	27	**D**	56	7175	1812	0.99	5.90	33	**D**	
																	231,100
15.242	ORANGE, KATELLA AVENUE INTERCHANGE	4	61	5630	1471	0.96	5.90	25	**C**	59	6262	1601	0.98	5.90	28	**D**	
																	215,100
16.981	ORANGE, LINCOLN AVENUE INTERCHANGE	4	64	6770	1721	0.98	5.90	28	**D**	56	6834	1738	0.98	5.90	32	**D**	
																	216,000
17.876	JCT RTE 91						5.90							5.90			

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	TUSTIN, FINLEY AVENUE																
																	55,700
0.267	JCT. RTE. 1						3.60							3.60			
																	55,700
1.513	COSTA MESA, EAST 17TH STREET						3.60							3.60			
																	87,800
1.82	COSTA MESA, HARBOR BOULEVARD						3.60							3.60			
																	71,700
2.021	COSTA MESA, 19TH STREET						3.60							3.60			
																	98,500
R2.772	COSTA MESA, VICTORIA/22ND STRETS	3	66.35	4014	1050	0.96	3.60	21	**C**	55	4256	1203	0.88	3.60	29	**D**	
																	133,400
R4.022	COSTA MESA, MESA DRIVE	4	65	4099	1054	0.97	3.60	17	**B**	62	5522	1393	0.99	3.60	23	**C**	
																	153,600
R4.77	JCT. RTE. 73, CORONA DEL MAR FREEWAY	3	64	3469	910	0.95	3.60	19	**C**	59	5200	1350	0.96	3.60	31	**D**	
																	153,600
R5.99	JCT. RTE. 405, SAN DIEGO FREEWAY	3	51	4092	1035	0.99	2.10	27	**D**	28	4456	1133	0.98	2.10	55	**F**	
																	162,300
R6.99	SANTA ANA, MAC ARTHUR BOULEVARD	4	58	7465	1880	0.99	5.80	33	**D**	50	6793	1726	0.98	5.80	36	**E**	
																	282,000
R7.85	SANTA ANA, DYER ROAD	4	62	8315	2214	0.94	5.80	37	**E**	48	6967	1778	0.98	5.80	38	**E**	
																	288,600
R9.437	SANTA ANA, EDINGER AVENUE	4	58	8488	2244	0.95	5.80	40	**E**	64	7347	1856	0.99	5.80	30	**D**	
																	303,900
R9.96	TUSTIN, MC FADDEN STREET INTERCHANGE	4	57	8442	2153	0.98	5.80	39	**E**	63	7690	1938	0.99	5.80	32	**D**	
																	287,500
10.45	TUSTIN, JCT. RTE. 5, SANTA ANA FREEWAY	4	37	4984	1374	0.91	6.60	38	**E**	65	4749	1295	0.92	6.60	21	**C**	
																	238,600
10.979	SANTA ANA, FOURTH STREET INTERCHANGE	3	35	5424	1412	0.96	6.60	56	**F**	65	4886	1269	0.96	6.60	27	**D**	
																	259,400
11.785	TUSTIN, SEVENTEENTH STREET INTERCHANGE	4	43	7158	1937	0.92	6.60	47	**F**	44	6941	1773	0.98	6.60	42	**E**	
																	251,500
12.967	JCT. RTE. 22 WEST, GARDEN GROVE FREEWAY	5	60	7162	1828	0.98	7.50	25	**C**	55	7437	1930	0.96	7.50	29	**D**	
																	263,700
13.7	CHAPMAN AVENUE	4	49	6452	1667	0.97	5.90	35	**E**	44	6716	1760	0.95	5.90	41	**E**	
																	231,100
15.242	ORANGE, KATELLA AVENUE INTERCHANGE	4	54	7401	1942	0.95	5.90	37	**E**	65	7933	2000	0.99	5.90	32	**D**	
																	215,100
16.981	ORANGE, LINCOLN AVENUE INTERCHANGE	4	62	7327	1924	0.95	5.90	32	**D**	66	6967	1781	0.98	5.90	28	**D**	
																	216,000
17.876	JCT RTE 91						5.90							5.90			

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11.1	AT CHAPMAN OFF	5	70	7120	1843	0.97	6.14	22	C	69	6425	1660	0.97	6.14	20	C	
																	119,100
11.22	CHAPMAN	5	70	6803	1753	0.97	6.14	21	C	69	6187	1582	0.98	6.14	19	C	
																	244,300
11.68	ORANGEWOOD	5	70	7670	1952	0.98	6.14	23	C	52	7204	1856	0.97	6.14	29	D	
																	250,100
12.2	STADIUM	5	68	7535	1914	0.98	6.14	23	C	62	7329	1906	0.96	6.14	25	C	
																	250,100
12.5	KATELLA	5	68	7535	1914	0.98	6.14	23	C	62	7329	1906	0.96	6.14	25	C	
																	249,900
12.9	DOUGLASS	5	67	7749	1968	0.98	6.14	24	C	60	7398	1895	0.98	6.14	26	D	
																	249,900
13.38	BALL	5	70	7000	1771	0.99	6.14	21	C	57	6615	1716	0.96	6.14	25	C	
																	251,700
13.9	WAGNER	5	62	8711	2259	0.96	6.14	30	D	41	8508	2229	0.95	6.14	45	E	
																	251,700
14.73	LINCOLN	5	66	6856	1762	0.97	6.14	22	C	47	6722	1783	0.94	6.14	32	D	
																	251,500
15.4	LA PALMA	3	61	6209	1620	0.96	6.14	37	E	53	5332	1405	0.95	6.14	37	E	
																	251,500
15.7	N OF 91	3	66	5927	1540	0.96	6.14	32	D	61	5442	1403	0.97	6.14	31	D	
																	279,300
16.5	ORANGETHROPE	6	67	9549	2484	0.96	6.14	25	C	67	9357	2425	0.96	6.14	25	C	
																	278,400
17.18	PLACENTIA	5	56	9138	2320	0.98	6.14	34	D	53	9379	2392	0.98	6.14	37	E	
																	278,400
18.3	YORBA LINDA	5	69	6792	1785	0.95	6.14	21	C	50	7534	2002	0.94	6.14	33	D	
																	245,000
19.1	ROLLING HILLS	4	68	7617	1944	0.98	6.14	29	D	60	8177	2156	0.95	6.14	37	E	
																	245,000
19.8	IMPERIAL	5	68	5827	1556	0.94	6.14	19	C	30	6569	1705	0.96	6.14	48	F	
																	238,600
21.16	LAMBERT ROAD	4	64	5735	1565	0.92	6.14	25	C	53	5607	1452	0.97	6.14	28	D	
																	227,500
22	TONNER CANYON	4	60	6070	1563	0.97	6.14	27	D	57	5677	1495	0.95	6.14	27	D	
																	221,000

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11.08	CHAPMAN	4	41	5811	1492	0.97	6.14	38	E	55	5647	1465	0.96	6.14	27	D	
																	244,300
11.55	ORANGEWOOD	4	52	6514	1684	0.97	6.14	33	D	51	6765	1779	0.95	6.14	36	E	
																	250,100
12.2	STADIUM	4	52	6514	1684	0.97	6.14	33	D	51	6765	1779	0.95	6.14	36	E	
																	250,100
12.4	KATELLA	4	54	7003	1784	0.98	6.14	34	D	59	7449	1931	0.96	6.14	34	D	
																	249,900
12.9	DOUGLAS	4	49	6917	1784	0.97	6.14	38	E	52	7138	1816	0.98	6.14	36	E	
																	249,900
13.27	BALL	4	44	6411	1687	0.95	6.14	40	E	47	6871	1758	0.98	6.14	39	E	
																	251,700
13.9	WAGNER	5	41	7629	2068	0.92	6.14	42	E	59	7687	2007	0.96	6.14	28	D	
																	251,700
14.65	LINCOLN	5	58	7446	1918	0.97	6.14	27	D	67	6980	1795	0.97	6.14	22	C	
																	251,500
15.4	LA PALMA	4	41	5293	1363	0.97	6.14	34	D	54	5512	1434	0.96	6.14	27	D	
																	251,500
15.7	N OF 91	4	61	5640	1522	0.93	6.14	26	C	61	5330	1350	0.99	6.14	23	C	
																	279,300
16.46	ORANGETHROPE	5	59	7123	1820	0.98	6.14	25	C	61	7189	1851	0.97	6.14	25	C	
																	278,400
17.18	CHAPMAN	4	37	7107	1834	0.97	6.14	51	F	36	6525	1655	0.99	6.14	47	F	
																	278,400
18.18	YORBA LINDA	5	38	6543	1711	0.96	6.14	37	E	54	6124	1561	0.98	6.14	24	C	
																	245,000
19.1	ROLLING HILLS	4	41	7004	1876	0.93	6.14	47	F	59	6955	1788	0.97	6.14	31	D	
																	245,000
19.73	IMPERIAL	4	37	6247	1666	0.94	6.14	46	F	60	5785	1471	0.98	6.14	25	C	
																	238,600
20.7	LAMBERT	4	31	5653	1534	0.92	6.14	51	F	58	5310	1336	0.99	6.14	24	C	
																	227,500
22.06	TONNER CANYON	4	39	6266	1694	0.92	6.14	45	E	64	6392	1618	0.99	6.14	26	D	
																	221,000

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.000	JCT RTE 5	3	66	3485	944	0.92	0.95	19	C	68	1949	514	0.95	0.95	10	A	
																	35,900
11.760	GREENFIELD DR	3	55	2927	794	0.92	0.95	19	C	70	1509	407	0.93	0.95	8	A	
																	34,900
13.404	LA PAZ ROAD	3	67	3738	1003	0.93	0.95	20	C	69	1763	474	0.93	0.95	9	A	
																	48,800
14.393	ALISO CREEK ROAD	4	69	5110	1352	0.94	0.95	20	C	70	2095	561	0.93	0.95	8	A	
																	58,000
16.250	EL TORO ROAD	3	57	5058	1298	0.97	1.04	31	D	67	1997	544	0.92	1.04	11	A	
																	67,400
18.696	TOLL PLAZA	3	64	6217	1613	0.96	1.04	34	D	64	2931	756	0.97	1.04	16	B	
																	67,900
21.428	NEWPORT COAST DRIVE	4	68	6686	1714	0.98	1.04	25	C	69	2994	773	0.97	1.04	11	B	
																	68,700
22.448	BONITA CANYON DRIVE/FORD ROAD	5	68	7408	1879	0.99	1.04	22	C	69	3449	915	0.94	1.04	11	A	
																	65,300
24.78	JAMBOREE ROAD	3	59	6023	1527	0.99	1.04	35	D	47	5013	1308	0.96	1.04	37	E	
																	175,200
26.58	COSTA MESA, JCT RTE 55	3	65	3856	1006	0.96	1.04	21	C	50	5216	1330	0.98	1.04	36	E	
																	117,500
27.28	COSTA MESA, BEAR STREET	3	66	4242	1076	0.99	1.04	22	C	58	4926	1257	0.98	1.04	29	D	
																	107,500
27.81	JCT RTE 405, SAN DIEGO FREEWAY	3	20	4004	1055	0.95	2.35	71	F	64	4126	1071	0.96	2.35	23	C	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.000	JCT RTE 5	3	67.892	1408	380	0.93	0.95	7	A	65.758	2807	743	0.94	0.95	15	B	
																	35,900
11.760	GREENFIELD DR	3	69	1053	283	0.93	0.95	5	A	69	2444	633	0.97	0.95	12	B	
																	39,800
13.404	LA PAZ ROAD	3	68	1252	340	0.92	0.95	7	A	65	3009	791	0.95	0.95	16	B	
																	48,800
14.393	ALISO CREEK ROAD	3	67	1404	373	0.94	0.95	7	A	59	4185	1104	0.95	0.95	25	C	
																	58,000
16.250	EL TORO ROAD	3	66	1757	450	0.98	1.04	9	A	64	5076	1346	0.94	1.04	28	D	
																	67,400
18.696	TOLL PLAZA	5	74	2162	593	0.91	1.04	6	A	68	6088	1600	0.95	1.04	19	C	
																	67,900
21.428	NEWPORT COAST DRIVE	4	66	2166	594	0.91	1.04	9	A	58	6016	1655	0.91	1.04	29	D	
																	68,700
22.448	BONITA CANYON DRIVE/FORD ROAD	4	67	2314	625	0.93	1.04	9	A	41	6267	1712	0.92	1.04	42	E	
																	114,200
24.78	JAMBOREE ROAD	3	47	4564	1203	0.95	1.04	34	D	60	5113	1315	0.97	1.04	29	D	
																	175,200
26.58	COSTA MESA, JCT RTE 55	3	23	4723	1223	0.97	1.04	71	F	35	3998	1036	0.96	1.04	40	E	
																	117,500
27.28	COSTA MESA, BEAR STREET	3	23	4723	1223	0.97	1.04	71	F	35	3998	1036	0.96	1.04	40	E	
																	107,500
27.81	JCT RTE 405	3	33	4659	1276	0.91	2.35	52	F	49	4429	1127	0.98	2.35	31	D	

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Postmile	SEGMENT	# of Lanes	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	LOS ANGELES-ORANGE COUNTY LINE	4	49	5519	1499	0.92	6.29	31	D	60	5420	1433	0.95	6.29	25	C	
																	248,000
R0.489	LA PALMA, ORANGETHORPE AVENUE	4	61	5627	1467	0.96	6.29	25	C	59	5687	1473	0.97	6.29	26	C	
																	254,700
R0.848	BUENA PARK, VALLEY VIEW STREET	4	57	5826	1558	0.93	6.29	28	D	57	6240	1653	0.94	6.29	30	D	
																	259,200
R1.842	BUENA PARK, KNOTT AVENUE	4	57	5826	1558	0.93	6.29	28	D	57	6240	1653	0.94	6.29	30	D	
																	264,300
R2.615	BUENA PARK, JCT. RTE. 39/BEACH	4	62	6869	1803	0.95	8.08	30	D	55	6806	1735	0.98	8.08	33	D	
																	263,800
R3.638	FULLERTON, JCT. RTE. 5, SANTA ANA FREEWAY	3	29	3635	970	0.94	6.80	46	F	62	4012	1016	0.99	6.80	23	C	
																	99,800
1.232	ANAHEIM, BROOKHURST AVENUE	4	54	6051	1636	0.92	6.80	31	D	50	6060	1586	0.96	6.80	33	D	
																	262,500
2.234	EUCLID AVENUE INTERCHANGE	4	38	5845	1525	0.96	6.80	41	E	45	6058	1554	0.97	6.80	36	E	
																	274,500
3.258	FULLERTON, HARBOR BOULEVARD	4	55	6308	1720	0.92	7.10	32	D	63	6019	1547	0.97	7.10	25	C	
																	266,500
3.512	ANAHEIM, LEMON STREET/ HARVARD AVENUE	4	55	6308	1720	0.92	7.10	32	D	63	6019	1547	0.97	7.10	25	C	
																	266,500
4.256	ANAHEIM, EAST STREET	4	34	6517	1652	0.99	7.10	50	F	59	6414	1631	0.98	7.10	29	D	
																	259,100
5.258	ANAHEIM, STATE COLLEGE BOULEVARD	4	55	6916	1792	0.96	9.20	34	D	53	6734	1737	0.97	9.20	34	D	
																	254,600
6.119	ANAHEIM, JCT. RTE. 57, ORANGE FREEWAY	3	59	4362	1113	0.98	8.70	26	D	58	3955	1047	0.94	8.70	25	C	
																	223,700
7.353	KRAEMER BOULEVARD/ GLASSELL STREET	3	49	4634	1176	0.99	8.70	33	D	63	4194	1082	0.97	8.70	24	C	
																	216,500
8.399	TUSTIN AVENUE INTERCHANGE	4	57	6439	1709	0.94	8.70	31	D	43	6605	1712	0.96	8.70	42	E	
																	231,600

Postmile	SEGMENT	# of Lanes	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
9.187	JCT. RTE. 55 SOUTH	4	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	
																	322,700
10.091	LAKEVIEW AVENUE	6	67	7343	1856	0.989089	4.50	19	**C**	63	7596	1970	0.963959	4.50	21	**C**	
																	303,200
11.540	PERALTA, JCT. RTE. 90 WEST	5	68	6254	1600	0.977188	4.75	19	**C**	65	6360	1690	0.940828	4.75	21	**C**	
																	256,400
14.431	WEIR CANYON ROAD	5	69	6588	1736	0.948733	4.75	21	**C**	46	5790	1669	0.867286	4.75	30	**D**	
																	117,000
15.925	JCT RTE 241	4	69	5584	1472	0.95	4.75	22	**C**	42	5643	1633	0.86	4.75	40	**E**	
																	260,000
16.404	GYPSUM CANYON ROAD INTERCHANGE	4	66	5137	1444	0.89	4.75	22	**C**	54	5494	1537	0.89	4.75	29	**D**	
																	130,000
17.950	COAL CANYON ROAD	5	70	7315	1886	0.97	4.75	22	**C**	40	8239	2141	0.96	4.75	44	**E**	
																	130,200
18.905	ORANGE/RIVERSIDE COUNTY LINE	5	67	7206	1846	0.98	4.75	22	**C**	30	8948	2309	0.97	4.75	63	**F**	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0	LOS ANGELES-ORANGE COUNTY LINE	4	42	6087	1626	0.94	6.29	40	**E**	49	5906	1499	0.98	6.29	32	**D**	
																	248,000
R0.6	LA PALMA, ORANGETHORPE AVENUE	4	58	5741	1479	0.97	6.29	26	**D**	59	5667	1558	0.91	6.29	27	**D**	
																	254,700
R1	BUENA PARK, VALLEY VIEW STREET	4	53	5814	1513	0.96	6.29	29	**D**	58	5684	1494	0.95	6.29	27	**D**	
																	259,200
R1.99	BUENA PARK, KNOTT AVENUE	4	45	6804	1760	0.97	6.29	40	**E**	44	6469	1702	0.95	6.29	40	**E**	
																	264,300
R2.6	BUENA PARK, JCT. RTE. 39/BEACH	4	53	6714	1736	0.97	8.08	34	**D**	53	6632	1712	0.97	8.08	34	**D**	
																	263,800
R3.4	FULLERTON, JCT. RTE. 5, SANTA ANA FREEWAY	3	49	4586	1153	0.99	6.80	32	**D**	58	4860	1251	0.97	6.80	30	**D**	
																	99,800
1.12	ANAHEIM, BROOKHURST AVENUE	4	60	6192	1589	0.97	6.80	27	**D**	59	6069	1536	0.99	6.80	27	**D**	
																	262,500
2.11	EUCLID AVENUE INTERCHANGE	4	63	6848	1807	0.95	6.80	30	**D**	61	6804	1711	0.99	6.80	29	**D**	
																	274,500
3.13	FULLERTON, HARBOR BOULEVARD	4	58	7749	1993	0.97	7.10	36	**E**	56	7645	1941	0.985	7.10	36	**E**	
																	266,500
3.91	ANAHEIM, LEMON STREET/ HARVARD AVENUE	4	61	6723	1713	0.981	7.10	29	**D**	45	6700	1761	0.951	7.10	41	**E**	
																	266,500
4.18	ANAHEIM, EAST STREET	4	60	6830	1739	0.98	7.10	30	**D**	46	6986	1786	0.98	7.10	40	**E**	
																	259,100
5.14	ANAHEIM, STATE COLLEGE BOULEVARD	4	62	6369	1627	0.98	9.20	27	**D**	49	6598	1674	0.99	9.20	36	**E**	
																	254,600
6.15	ANAHEIM, JCT. RTE. 57, ORANGE FREEWAY	3	54	5654	1437	0.98	8.70	37	**E**	49	5358	1362	0.98	8.70	39	**E**	
																	223,700
7.4	KRAEMER BOULEVARD/ GLASSELL STREET	5	67	7093	1811	0.98	8.70	23	**C**	59	6474	1659	0.98	8.70	23	**C**	
																	216,500
8.36	TUSTIN AVENUE INTERCHANGE	6	7993	2157	2087	0.26	8.70	0	**A**	66	7129	1823	0.98	8.70	19	**C**	
																	231,600
9.187	JCT. RTE. 55 SOUTH	4	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	N/A	N/A	N/A	N/A	4.50	N/A	**N/A**	
																	322,700

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
10.091	LAKEVIEW AVENUE	5	70	7465	1899	0.983	4.50	22	C	34	7179	1812	0.945	4.50	46	F	
																	303,200
11.540	PERALTA, JCT. RTE. 90 WEST	5	63	6902	1746	0.988	4.75	23	C	33	6116	1582	0.966	4.75	39	E	
																	256,400
14.431	WEIR CANYON ROAD	5	70	7017	1787	0.982	4.75	21	C	67	5647	1451	0.973	4.75	18	B	
																	117,000
15.925	JCT RTE 241	4	68	7431	1881	0.99	4.75	28	D	63	6039	1550	0.97	4.75	25	C	
																	260,000
16.404	GYPSUM CANYON ROAD INTERCHANGE	4	66	6170	1573	0.98	4.75	24	C	62	5733	1461	0.98	4.75	24	C	
																	130,000
17.950	COAL CANYON ROAD	5	59	9547	2490	0.96	4.75	35	D	68	7535	1942	0.97	4.75	23	C	
																	130,200
18.905	ORANGE/RIVERSIDE COUNTY LINE	4	50	6350	1657	0.96	4.75	34	D	62	5533	1446	0.96	4.75	24	C	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	LAGUNA BEACH, JCT. RTE. 1, PACIFIC COAST HIGHWAY																
																	22,200
0.230	LAGUNA BEACH, N OR CLIFF DRIVE																
																	28,500
0.962	LAGUNA BEACH, CANYON ACRES DRIVE																
																	37,500
3.416	LAGUNA BEACH, EL TORO ROAD																
																	20,100
7.710	LAGUNA CANYON ROAD																
																	N/A
8.376	JCT. RTE. 405, SAN DIEGO FREEWAY																
																	35,000
8.990	BARRANCA1	2	63	1616	453	0.89	4.53	15	**B**	59	2723	713	0.95	4.53	25	**C**	
																	30,100
9.100	BARRANCA2	3	66	1822	486	0.94	4.53	10	**A**	55	3730	979	0.95	4.53	24	**C**	
																	30,100
9.37	S OF 5	2	68	749	226	0.83	4.53	7	**A**	64	2010	673	0.75	4.53	22	**C**	
																	30,100
9.77	N OF 5	2	67	1457	426	0.86	4.53	13	**B**	65	3819	996	0.96	4.53	31	**D**	
																	30,100
10.05	MARINE WAY	2	64	1155	325	0.89	4.53	10	**A**	65	3199	835	0.96	4.53	26	**D**	
																	42,600
10.50	N OF MARINE	3	69	1152	324	0.89	4.53	6	**A**	67	3171	832	0.95	4.53	17	**B**	
																	42,600
10.73	S OF PM 11	4	66	1710	446	0.96	4.53	7	**A**	65	4860	1268	0.96	4.53	20	**C**	
																	42,600
11.08	AT PM 11	3	68	1462	393	0.93	4.53	8	**A**	66	4288	1121	0.96	4.53	23	**C**	
																	42,600
11.35	N OF PM 11	3	53	1478	404	0.91	4.53	10	**A**	51	4307	1120	0.96	4.53	30	**D**	
																	42,600
11.70	IRVINE BLVD 1	3	69	2029	520	0.98	4.53	10	**A**	64	5859	1543	0.95	4.53	33	**D**	
																	42,600
12.05	IRVINE BLVD 3	3	66	1439	372	0.97	3.19	8	**A**	63	4024	1079	0.93	3.19	23	**C**	
																	46,900
12.42	S OF PORTOLA	4	68	1529	396	0.97	3.19	6	**A**	64	4185	1132	0.92	3.19	18	**B**	
																	46,900
12.77	NB 133 TO 241	2	63	889	232	0.96	3.19	7	**A**	55	2787	761	0.92	3.19	28	**D**	
																	46,900
13.04	ORANGE 1	2	69	834	217	0.96	3.19	6	**A**	59	2214	605	0.91	3.19	21	**C**	
																	46,900
13.42	ORANGE 2	2	69	834	217	0.96	3.19	6	**A**	59	2214	605	0.91	3.19	21	**C**	
																	46,900

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			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	LAGUNA BEACH, JCT. RTE. 1, PACIFIC COAST HIGHWAY						3.41							3.41			
																	22,000
0.230	LAGUNA BEACH, N OR CLIFF DRIVE						3.41							3.41			
																	36,300
0.962	LAGUNA BEACH, CANYON ACRES DRIVE						3.41							3.41			
																	37,500
3.416	LAGUNA BEACH, EL TORO ROAD						1.14							1.14			
																	35,000
7.710	LAGUNA CANYON ROAD						1.14							1.14			
																	35,000
8.376	JCT. RTE. 405, SAN DIEGO FREEWAY						3.76							3.76			
																	35,000
8.990	BARRANCA1	3	52	3487	949	0.92	4.53	25	**C**	65	1936	504	0.96	4.53	11	**A**	
																	30,100
9.37	S OF 5	2	58	1780	484	0.92	4.53	17	**B**	65	674	191	0.88	4.53	6	**A**	
																	46,900
9.77	N OF 5	2	47	2762	707	0.98	4.53	31	**D**	39	841	221	0.95	4.53	12	**B**	
																	46,900
10.05	MARINE WAY	3	55	4461	1149	0.97	4.53	28	**D**	67	1332	355	0.94	4.53	7	**A**	
																	46,900
10.50	N OF MARINE	3	61	4319	1122	0.96	4.53	25	**C**	68	1282	337	0.95	4.53	7	**A**	
																	46,900
10.73	S OF PM 11	4	62	9393	2405	0.98	4.53	40	**E**	70	2897	774	0.94	4.53	11	**B**	
																	46,900
11.08	AT PM 11	3	53	5542	1411	0.98	4.53	36	**E**	69	1517	396	0.96	4.53	8	**A**	
																	46,900
11.35	N OF PM 11	3	59	5984	1522	0.98	4.53	35	**E**	63	1643	426	0.96	4.53	9	**A**	
																	46,900
11.70	IRVINE BLVD 1	3	63	5077	1289	0.98	3.19	28	**D**	67	1295	339	0.96	3.19	7	**A**	
																	47,200
12.05	IRVINE BLVD 3	3	55	5370	1380	0.97	3.19	34	**D**	69	2463	726	0.85	3.19	14	**B**	
																	47,200
12.42	S OF PORTOLA	4	56	5215	1377	0.95	3.19	25	**C**	67	1516	402	0.94	3.19	6	**A**	
																	47,200
13.04	ORANGE 1	2	54	2362	613	0.96	3.19	23	**C**	67	761	200	0.95	3.19	6	**A**	
																	47,200
13.42	ORANGE 2	2	69	2402	610	0.98	3.19	18	**B**	67	731	203	0.90	3.19	6	**A**	
																	47,200

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
14.550	OSO	2	67	684	200	0.86	6.36	6	A	67	333	87	0.96	6.36	3	A	
																	6,900
17.768	ANTONIO	2	67	684	200	0.86	6.36	6	A	67	333	87	0.96	6.36	3	A	
																	16,100
18.488	SANTA MARGARITA	2	66	1351	368	0.92	6.36	12	B	66	505	141	0.90	6.36	4	A	
																	36,500
20.077	LOS ALISOS	3	66	3031	795	0.95	1.70	16	B	67	1059	288	0.92	1.70	6	A	
																	37,100
21.802	PORTOLA UC	3	68	3161	822	0.96	1.70	16	B	68	959	261	0.92	1.70	5	A	
																	32,400
23.418	ALTON	3	66	3678	1009	0.91	3.08	21	C	68	1437	379	0.95	3.08	8	A	
																	40,100
24.968	PORTOLA	3	61	3853	1004	0.96	3.08	22	C	68	1694	469	0.90	3.08	9	A	
																	39,200
27.378	JCT RTE 133	2	67	964	260	0.93	3.08	8	A	66	1036	279	0.93	3.08	9	A	
																	32,700
32.541	CHAPMAN-SANTIAGO RD UC	2	65	1451	380	0.95	3.08	12	B	62	2351	626	0.94	3.08	21	C	
																	47,800
36.099	WINDY RIDGE TOLL	3	69	1830	474	0.97	3.08	9	A	42	3908	1070	0.91	3.08	34	D	
																	47,800
39.079	JCT RTE 91	4	67	1957	510	0.96	1.66	8	A	36	3928	1022	0.96	1.66	29	D	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
14.550	OSO	2	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	
																	6,900
17.768	ANTONIO	2	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	N/A	N/A	N/A	N/A	6.36	N/A	**N/A**	
																	16,100
18.488	SANTA MARGARITA	2	65	444	125	0.89	6.36	4	**A**	67	1066	290	0.92	6.36	9	**A**	
																	36,500
20.077	LOS ALISOS	2	68	945	274	0.86	1.70	8	**A**	67	2333	610	0.96	1.70	18	**C**	
																	37,100
21.802	PORTOLA UC	2	67	949	267	0.89	1.70	8	**A**	66	2236	581	0.96	1.70	18	**B**	
																	32,400
23.418	ALTON	3	66	1369	375	0.91	3.08	8	**A**	68	2753	697	0.99	3.08	14	**B**	
																	40,100
24.968	PORTOLA	2	67	1848	499	0.93	3.08	15	**B**	67	2938	761	0.97	3.08	23	**C**	
																	39,200
27.378	JCT RTE 133	2	70	1231	316	0.97	3.08	9	**A**	68	767	197	0.97	3.08	6	**A**	
																	32,700
32.541	CHAPMAN-SANTIAGO RD UC	2	48	2733	710	0.96	3.08	30	**D**	38	1116	292	0.96	3.08	16	**B**	
																	47,800
36.099	WINDY RIDGE TOLL	3	62	5585	1418	0.98	3.08	31	**D**	69	1781	465	0.96	3.08	9	**A**	
																	47,800
39.079	JCT RTE 91	5	20	5923	1537	0.96	1.66	62	**F**	74	1819	470	0.97	1.66	5	**A**	

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	WALNUT AVENUE	3	69	259	72	0.90		1	A	66	2194	561	0.98		11	B	
																	82,300
0.239	JAMBOREE	2	66	258	69	0.93		2	A	68	2242	616	0.91		18	C	
																	37,500
1.638	IRVINE	2	67	313	82	0.95		2	A	68	2179	550	0.99		16	B	
																	35,800
2.848	PORTOLA	3	69	337	92	0.92		2	A	69	1994	509	0.98		10	A	
																	32,200
6.035	CHAPMAN	3	69	337	92	0.92		2	A	69	1994	509	0.98		10	A	
																	28,000
6.205	JCT RTE 241																

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.000	WALNUT AVENUE	2	65	3202	858	0.93		27	D	65	859	226	0.95		7	A	
																	82,300
0.239	JAMBOREE	2	68	3477	891	0.98		26	D	67	659	178	0.93		5	A	
																	37,500
1.638	IRVINE	3	64	3166	815	0.97		17	B	69	542	149	0.91		3	A	
																	35,800
2.848	PORTOLA	2	61	3032	772	0.98		25	C	68	514	134	0.96		4	A	
																	32,200
6.035	CHAPMAN	2	60	2688	692	0.97		23	C	68	534	145	0.92		4	A	
																	28,000
6.205	JCT RTE 241																

** % Truck and ADT Values are the most recent values published at
www.dot.ca.gov/hq/traffops/saferesr/trafdata/ which is currently 2016 data **

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.230	JCT. RTE. 5	3	56	4272	1157	0.92	5.00	28	D	43	3465	880	0.98	5.00	28	D	
																	190,500
0.949	IRVINE CENTER	6	45	6650	1762	0.94	5.00	27	D	26	6108	1612	0.95	5.00	42	E	
																	212,900
1.804	JCT. RTE. 133	5	47	8680	2411	0.90	4.90	42	E	34	7428	1934	0.96	4.90	47	F	
																	250,400
2.876	SAND CANYON	4	43	7806	2106	0.93	5.20	51	F	41	6572	1713	0.96	5.20	43	E	
																	255,900
3.947	UNIVERSITY	4	54	8199	2119	0.97	5.60	40	E	43	7096	1794	0.99	5.60	42	E	
																	244,300
5.618	CULVER DRIVE	5	49	9375	2389	0.98	5.60	40	E	53	7692	1926	1.00	5.60	30	D	
																	268,400
6.917	JAMBOREE	5	59	9344	2390	0.98	5.60	33	D	53	8464	2149	0.98	5.60	33	D	
																	277,000
7.803	MAC ARTHUR	5	63	9130	2387	0.96	5.00	31	D	52	8761	2240	0.98	5.00	35	E	
																	279,200
8.740	JCT. RTE. 55	4	67	4600	1183	0.97	3.49	18	C	57	5260	1351	0.97	3.49	24	C	
																	239,200
9.46	BRISTOL	4	63	5725	1532	0.93	3.49	25	C	46	6233	1598	0.98	3.49	36	E	
																	229,200
9.9	BEAR	5	64	7428	1987	0.93	3.49	25	C	50	8155	2117	0.96	3.49	35	D	
																	229,200
10.9	FAIRVIEW	6	68	8076	2067	0.98	3.49	20	C	33	7750	2084	0.93	3.49	43	E	
																	292,400
11.4	HARBOR	6	65	8814	2296	0.96	3.49	24	C	44	9101	2335	0.97	3.49	36	E	
																	312,400
12.85	EUCLID	5	69	10015	2542	0.98	3.49	30	D	34	9388	2505	0.94	3.49	59	F	
																	291,300
13.74	BROOKHURST	4	66	6643	1684	0.99	3.49	26	D	35	6746	1759	0.96	3.49	51	F	
																	269,200
14.82	WARNER	4	68	6023	1576	0.96	3.49	23	C	49	6700	1703	0.98	3.49	35	E	
																	252,400
15.17	MAGNOLIA	4	71	6095	1630	0.93	3.49	23	C	58	5996	1526	0.98	3.49	27	D	
																	266,000
16.52	BEACH	4	59	8564	2241	0.96	3.49	38	E	61	7906	2078	0.95	3.49	35	D	
																	266,000
17.45	MCFADDEN	4	65	7751	1998	0.97	3.49	31	D	57	7655	1989	0.96	3.49	36	E	
																	266,000
17.92	GOLDENWEST	4	68	6945	1787	0.97	3.49	27	D	57	7205	1877	0.96	3.49	34	D	
																	262,700
19.24	WESTMINISTER	4	56	5829	1558	0.94	3.49	29	D	57	6548	1719	0.95	3.49	31	D	
																	245,400
20.33	BRYANT	4	65	6740	1714	0.98	3.49	27	D	57	6834	1753	0.97	3.49	31	D	
																	377,600

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
22.55	SEAL BEACH	6	57	10282	2698	0.95	3.00	32	D	62	10233	2595	0.99	3.00	28	D	
																	370,100
23.62	SALMON	5	54	7983	2111	0.95	3.00	32	D	62	8625	2184	0.99	3.00	29	D	
																	254,400

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
0.230	JCT. RTE. 5	5	66	5526	1419	0.97	5.00	18	**B**	66	6341	1656	0.96	5.00	21	**C**	
																	190,500
0.949	IRVINE CENTER	4	64	5311	1356	0.98	5.00	22	**C**	60	5696	1464	0.97	5.00	25	**C**	
																	212,900
1.804	JCT. RTE. 133	4	63	6000	1528	0.98	4.90	25	**C**	65	5970	1549	0.96	4.90	24	**C**	
																	250,400
2.876	SAND CANYON	4	62	6654	1727	0.96	5.20	29	**D**	48	6684	1701	0.98	5.20	36	**E**	
																	255,900
3.947	UNIVERSITY	4	50	7443	1887	0.99	5.60	38	**E**	50	6695	1704	0.98	5.60	35	**D**	
																	244,300
5.618	CULVER DRIVE	4	51	7164	1848	0.97	5.60	37	**E**	53	6979	1873	0.93	5.60	36	**E**	
																	268,400
6.917	JAMBOREE	6	52	7595	1959	0.97	5.60	26	**C**	50	7197	1848	0.97	5.60	25	**C**	
																	277,000
7.803	MAC ARTHUR	6	42	11368	2923	0.97	5.00	47	**F**	62	9573	2416	0.99	5.00	27	**D**	
																	279,200
8.740	JCT. RTE. 55	4	52	7440	1886	0.99	3.49	37	**E**	65	6189	1563	0.99	3.49	25	**C**	
																	239,200
9.54	BRISTOL	5	45	9174	2389	0.96	3.49	43	**E**	67	6174	1571	0.98	3.49	19	**C**	
																	229,200
9.9	BEAR	4	39	7937	2081	0.95	3.49	55	**F**	64	5532	1395	0.99	3.49	22	**C**	
																	229,200
10.28	FAIRVIEW	5	51	8416	2185	0.96	3.49	35	**D**	71	6328	1596	0.99	3.49	18	**C**	
																	292,400
11.2	HARBOR	6	47	10921	2750	0.99	3.49	39	**E**	67	8953	2309	0.97	3.49	24	**C**	
																	312,400
12.5	EUCLID	5	53	9698	2477	0.98	3.49	38	**E**	69	8590	2185	0.98	3.49	26	**C**	
																	291,300
13.81	BROOKHURST	4	61	8771	2246	0.98	3.49	38	**E**	61	8317	2126	0.98	3.49	36	**E**	
																	269,200
14.72	WARNER	4	69	5313	1479	0.90	3.49	22	**C**	42	7049	1903	0.93	3.49	46	**F**	
																	252,400
15.16	MAGNOLIA	4	39	7713	2130	0.91	3.49	55	**F**	55	8136	2094	0.97	3.49	39	**E**	
																	266,000
16.26	EDINGER	5	73	6261	1751	0.89	3.49	20	**C**	46	7992	2153	0.93	3.49	38	**E**	
																	266,000
16.6	BEACH	4	45	6209	1741	0.89	3.49	39	**E**	64	6702	1682	1.00	3.49	27	**D**	
																	266,000
17.45	MCFADDEN	4	42	6969	1837	0.95	3.49	45	**E**	44	7836	1984	0.99	3.49	45	**F**	
																	266,000
17.98	GOLDENWEST	4	45	7043	1914	0.92	3.49	43	**E**	62	6645	1728	0.96	3.49	29	**D**	
																	262,700
19.05	WESTMINSTER	4	69	6849	1788	0.96	3.49	26	**D**	69	7094	1858	0.95	3.49	28	**D**	
																	245,400

Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
20.33	BRYANT	4	52	7261	1997	0.91	3.49	39	**E**	44	7145	1796	0.99	3.49	42	**E**	
																	377,600
22.54	SEAL BEACH	6	34	10509	2699	0.97	3.00	53	**F**	45	10476	2650	0.99	3.00	40	**E**	
																	370,100
23.62	SALMON	4	57	6186	1606	0.96	3.00	28	**D**	60	6493	1636	0.99	3.00	28	**D**	
																	254,400

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R 1.26	KATELLA 1	4	66	5138	1337	0.96	4.63	21	C	60	5639	1454	0.97	4.63	25	C	
																	162,400
R 1.55	KATELLA 2	4	67	5356	1383	0.97	4.63	21	C	53	5615	1440	0.97	4.63	28	D	
																	167,000

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Postmile	SEGMENT	# of LANES	AM PEAK PERIOD							PM PEAK PERIOD							2016 ADT
			AM Speed	AM (PHV)	PHV (15 min)	PHF	% Truck	AM Density	AM LOS	PM Speed	PM (PHV)	PHV (15 min)	PHF	% Truck	PM Density	PM LOS	
R 1.26	KATELLA 1	4	65	4843	1330	0.91	4.63	21	C	65	4660	1225	0.95	4.63	19	C	
																	162,400
R 1.55	KATELLA 2	4	60	4930	1317	0.94	4.63	22	C	65	4690	1196	0.98	4.63	19	C	
																	167,000

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Appendix B-1: Meeting CMP Traffic Impact Analysis Requirements

Meeting CMP Traffic Impact Analysis Requirements

AN OPTIONAL GUIDANCE FOR LOCAL JURISDICTIONS

Prepared for:

Orange County Environmental Management Agency
Orange County Transportation Commission
Orange County Transit District
League of Cities, Orange County Division
Transportation Corridor Agencies

Prepared by:

Kimley-Horn and Associates, Inc.
and
The Planning Center

June 11, 1991

CMP-TIA REQUIREMENTS

Requirements of CMP legislation

- Analyze impacts of land use decisions on CMP Highway System.
- Estimate costs associated with mitigation of impacts on CMP Highway System.
- Exclude costs associated with mitigating the impacts of interregional travel.
- Allow credits against mitigation costs for local public and private contributions to improvements to the CMP Highway System.
  - For toll road facilities, allow credits only for local public and private contributions which will not be reimbursed from toll revenues or other state or federal sources.
- Report annually on actions taken to adopt and implement a program to analyze the impacts of land use decisions on the CMP Highway System and to estimate the costs of mitigating those impacts.

Year One Goal

- Identify the impacts of development anticipated to occur over the next 7 years on the CMP Highway System and the projected costs of mitigating those impacts.

Actions Required of Local Jurisdictions

- A TIA will be required for CMP purposes for all proposed developments generating 2,400 or more daily trips. For developments which will directly access the CMP Highway System, the threshold for requiring a TIA should be reduced to 1,600 or more trips per day.
- Document procedures used to identify and analyze traffic impacts of new development on CMP Highway System. This documentation should include the following:
  - Identification of type of development proposals which are subject to a traffic impact analyses (TIA);
  - Description of required or acceptable TIA methodology; and
  - Description of inter-jurisdictional coordination process used when impacts cross local agency boundaries.
- Document procedures/standards used to determine the costs of mitigation requirements for impacts of new development on CMP Highway System.
- Document methodology and procedures for determining applicable credits against mitigation costs including allowable credits associated with contributions to toll road facilities.

SECTION 1 – INTRODUCTION

Purpose

State legislation creating the Congestion Management Program (CMP) requires that the program contain a process to analyze the impacts of land use decisions by local governments on the regional transportation system. Once impacts of a land use decision are identified, the CMP also requires that the costs to mitigate the impacts be determined.

For CMP purposes, the regional transportation system is defined by the legislation as all state highways and principal arterials at a minimum. This system is referred to as the CMP Highway System. The identification and analysis of impacts along with estimated mitigation costs are determined with respect to this CMP Highway System.

The objectives of this report are to:

- Provide guidance to local agencies in conducting traffic impact analyses.
- Assist local agencies in maintaining eligibility for funds through documentation of CMP compliance.
- Make available minimum standards for jurisdictions wishing to use them for identifying and analyzing impacts on CMP Highway System.
- Establish CMP documentation requirements for those jurisdictions which elect to use their own TIA methodology.
- Establish a baseline from which TIA standardization may evolve as experience is gained in the CMP process.
- Cause the analysis of impacts on the CMP Highway System to be integrated into the local agency development review process.
- Provide a method for determining the costs associated with mitigating development impacts.
- Provide a framework for facilitating coordination between agencies when appropriate.

Background

Through a coordinated effort among local jurisdictions, public agencies, business and community groups, Orange County has developed a Congestion Management Program framework in response to the requirements of Assembly Bill 1791. This framework is contained in the Congestion Management Program Preparation Manual which was issued in January 1991 as a joint publication of the following agencies:

- County of Orange
- Orange County Division, League of California Cities
- Orange County Transportation Commission
- Orange County Transit District

- Transportation Corridor Agencies

The CMP Manual describes the CMP Program requirements for each component prescribed by the CMP provision of AB 1791. The components include one entitled Land Use Coordination, which sets forth the basic requirements for the assessment, mitigation, and monitoring of traffic impacts to the CMP Highway System which are attributable to development projects.

Consolidation of Remaining Issues

This report is intended to present a useful reference in addressing the remaining issues associated with the identification and treatment of development impacts on the CMP Highway System. It is desirable that a standardized approach be utilized for determining which projects require analysis and in carrying out the resulting traffic impact analysis (TIA). It is also desirable that a reasonably uniform approach be utilized in determining appropriate mitigation strategies and estimating the associated costs.

TIA Survey History

In 1989, Kimley-Horn and Associates, Inc. conducted a survey of TIA procedures being used at the time by local jurisdictions within Orange County. The survey revealed that although there were some commonalities, there was considerable variation in approach, scope, evaluation methodology, and project disposition.

As part of the CMP process, it was determined that the identification of TIA elements which can or should be standardized should be accomplished. Additional documentation of cost estimating practices and the development of standardized costs and estimating procedures will be valuable in achieving desired consistency among jurisdictions.

In order to accomplish these objectives, Kimley-Horn's previous TIA survey was updated and additional information was solicited from each local agency within Orange County. The information was obtained through telephone interviews with City Engineers and Planners after they had an opportunity to examine the survey questionnaire which was mailed to them in advance of the interview. The information obtained was used in preparing the methodology recommendations contained in this report. A summary of the update survey results is provided in the Appendix.

Relationships with Other Components

In addition to being an integral part of the Land Use Coordination component of the CMP, the traffic impact analysis requirements also relate to all other CMP components to a greater or lesser degree. These components include the following:

- Modeling
- Level of Service
- Transit Standards
- Traffic Demand Management
- Deficiency Plans
- Capital Improvement Program

The Land Use Coordination section in Chapter 3 of the CMP Preparation Manual dated January, 1991 contains a detailed description of each of the component linkages listed above.

SECTION 2- REQUIREMENTS OF CMP LEGISLATION

The complete text of CMP legislation is contained in Appendix A to the Preparation Manual for the Congestion Management Program for Orange County dated January, 1991. For ease of reference, the requirements of this legislation related to analysis of the impacts of land use decisions made by local jurisdictions are summarized as follows:

- Analyze impacts of land use decisions on CMP Highway System.
- Estimate costs associated with mitigation of impacts on CMP Highway System.
- Exclude costs associated with mitigating the impacts of interregional travel.
- Allow credits against mitigation costs for local public and private contributions to improvements to the CMP Highway System.
    - For toll road facilities, allow credits only for local public and private contributions which will not be reimbursed from toll revenues or other state or federal sources.
- Report annually on actions taken to adopt and implement a program to analyze the impacts of land use decisions on the CMP Highway System and to estimate the costs of mitigating those impacts.

SECTION 3 - ACTIONS REQUIRED OF LOCAL AGENCIES

The provisions of CMP legislation, as summarized in the preceding section, impose a requirement on local jurisdictions to carry out certain actions in order to demonstrate their compliance with the CMP program. This compliance will maintain eligibility to receive state gas tax funds made available by the voter approved Proposition 111. The actions and documentation requirements related to the identification and analysis of traffic impacts include the following:

- A TIA will be required for CMP purposes for all proposed developments generating 2,400 or more daily trips. For developments which will directly access the CMP Highway System, the threshold for requiring a TIA should be reduced to 1,600 or more trips per day.
- Document procedures used to identify and analyze traffic impacts of new development on CMP Highway System. This documentation should include the following:
    - Identification of type of development proposals which are subject to a traffic impact analyses (TIA);
    - Description of required or acceptable TIA methodology; and
    - Description of inter-jurisdictional coordination process used when impacts

cross local agency boundaries.

- Document procedures/standards used to determine the costs of mitigation requirements for impacts of new development on CMP Highway System.
- Document methodology and procedures for determining applicable credits against mitigation costs including allowable credits associated with contributions to toll road facilities.
- Establish annual monitoring and reporting process to summarize activities performed in analyzing the impacts of land use decisions on the CMP Highway System and in estimating the associated mitigation costs. Procedures for incorporating mitigation measures into the Capital Improvement Program should also-be established.
- For the first year, local jurisdictions may assume that all interregional travel occurs on the freeway system or they may develop an analysis methodology to determine the amount of interregional travel occurring on arterials which are part of the CMP Highway System. During the first year, TIAs need to analyze only the impacts to arterial portions of the CMP Highway System.

SECTION 4 - CMP TRAFFIC IMPACT ANALYSIS METHODOLOGY

In order to assure that the CMP Program meets its objectives of linking land use decisions with the adequate evaluation of impacts related to those decisions, traffic impact analyses must often be undertaken. There are a number of essential elements which should be included in traffic impact analyses (TIA) used to support the program. Many local jurisdictions already employ development review processes which will be adequate for addressing CMP requirements. For those jurisdictions wishing technical guidance in carrying out the analysis of traffic impacts on the CMP Highway System, this section offers an appropriate TIA methodology.

PROJECTS REQUIRING TIA ANALYSIS

All development in Orange County will use the CMP Network to a greater or lesser extent from time-to-time. The seven-year capital improvement program, together with deficiency plans to respond to deficiencies which cannot be resolved in the 7-year timeframe, are developed in response to anticipated growth in travel within a jurisdiction. Thus, a certain level of travel growth is addressed in the normal planning process and it is not necessary to evaluate relatively small projects with a TIA or to rely on TIA's as the primary means of identifying needed CMP Highway System improvements. Furthermore, County voters have approved a sales tax increase which will fund major improvements to the transit and highway systems serving the County.

Many jurisdictions will require an EIR for a proposed development project. When required, the EIR should include steps necessary to incorporate the required CMP analysis. Most or all of the TIA elements described in this section would normally be

incorporated into the typical EIR traffic analysis.

Certain development projects not requiring an EIR should still be evaluated through a TIA process due to their land use type, intensity, proximity to the CMP network, and/or duration of development timeframe. In other words, developments which will significantly alter the anticipated demand on a CMP roadway should be evaluated through a TIA approach.

At the present time, there is a wide-ranging approach to determining which projects will require a TIA. In some jurisdictions, there are formal guidelines, while in others it depends primarily on the judgment of a member of staff relative to the probable significance of the project's impact on the surrounding road system.

The OCTC TIA guidelines recommended defining three percent of the level of service standard as significant impact. This seems reasonable for application for CMP purposes. Thus, project impacts of three percent or less can be mitigated by impact fees or other revenues. Projects with a potential to create an impact of more than three percent of Level of Service E capacity will require TIA's. On this basis, it is recommended that all development projects which generate more than 2,400 daily trips be subject to a TIA for CMP evaluation. For projects which will directly access or be in close proximity to a CMP Highway System link a reduced threshold of 1,600 trips/day would be appropriate. Appendix B provides background information of the derivation of these threshold values.

TIA PROCESS

There are a number of essential elements in the TIA process itself. It is desirable that all of these elements be evaluated within an acceptable range of criteria in order to assure the objectives of the CMP process and to maintain a reasonable degree of equity from jurisdiction to jurisdiction. It is recognized, however, that for certain of the elements, some variations relating to professional judgment and local criteria and characteristics are necessary and appropriate to the process. These factors have been fully considered in developing the descriptions of the following elements:

- Evaluation of existing conditions
- Trip generation
- Internal capture and passer-by traffic
- Trip distribution and assignment
- Radius of development influence
- Background traffic
- Capacity analysis methodology
- Impact costs/mitigation

Evaluation of Existing Conditions

In order to evaluate the relative impacts of a proposed development, determine CMP Highway System status and define appropriate mitigation for new impacts, it is necessary to understand the existing conditions on the affected roadway network. Evaluation of

existing conditions is common to nearly all jurisdictions in Orange County. Given that most jurisdictions use link and intersection capacity analysis techniques compatible with the techniques identified in the level-of-service component, no changes in existing local jurisdiction procedures should be necessary in connection with the CMP Program.

Trip Generation

At the foundation of traffic impact analyses is the quantification of trip generation. Use of the ITE Trip Generation Manual is common throughout Orange County. In addition, other widely accepted practices are being used when appropriate to supplement the lit data. These practices include use of acceptable rates published by local agencies and surveys conducted at similar sites, subject to approval of the reviewing agency. Given the uniformity of practice in Orange County to date, no major adjustments in this procedure should be required. It would be desirable however to establish a central library for reporting the results of special trip generation studies and making these results available to all other jurisdictions who wish them.

Internal Capture and Passer-by Traffic

Techniques for identifying the internal relationship of travel within mixed-use developments and the degree to which development captures passer-by trips as opposed to creating new trips are being applied by approximately 2/3 of the local jurisdictions within Orange County. The use of guidelines in the ITE Trip Generation Manual and appropriate professional judgment are the predominant techniques employed. To supplement the guidance available through ITE documentation, local jurisdictions are encouraged to undertake additional studies to document rates applicable within their jurisdiction. The determination of applicable rates should be undertaken by experienced transportation engineering professionals with thorough documentation of the methodology, data, and assumptions used. It is recommended that those jurisdictions which do not currently allow these adjustments establish revised TIA procedures incorporating this element. As with trip generation data, a central library would be desirable for reporting of data and analyses performed locally related to determination of appropriate factors.

Trip Distribution and Assignment

Several appropriate distribution and assignment techniques are used in Orange County, depending on the size of the development and the duration of buildout. Manual and computer modeling approaches are used as appropriate. Manual methods based on the best socio-economic information available to the agency and applicant should be acceptable except when a development's size makes a modeling approach more appropriate. Sources of this information include demographic surveys, market analyses, and previous studies.

Radius of Development Influence

There are numerous ways to identify the study area to be evaluated in a TIA. These include both qualitative and quantitative approaches. One of the most effective ways is through the determination of the quantity of project traffic on CMP roadway links compared to a selected level of impact. The goal of a quantitative approach is to be sure that all elements

of the CMP network are addressed in a comparable manner from jurisdiction to jurisdiction. This is important due to the potential for overlapping impacts among jurisdictions. It is also important to maintain flexibility within a quantitative process to allow transportation professionals at local jurisdictions to add areas to the study which are of specific concern. It is not intended that CMP practices should restrict this aspect of each agency's existing TIA process.

It is recommended that the study area for CMP Highway System links be defined by a measure of significant impact on the roadway links. As a starting point, it is proposed that the measure be three percent of existing roadway capacity. Thus, when a traffic impact analysis is being done it would require the inclusion of CMP roadway links that are impacted by 3 percent or more of their LOS E capacity. If a TIA is required only for CMP purposes, the study area would end when traffic falls below three percent of capacity on individual roadway links. If the TIA is also required for other purposes, additional analysis can be required by the local jurisdiction based on engineering judgment or local regulation as applicable.

Background Traffic

In order for a reasonable assessment of the level of service on the CMP network, it is necessary to not only identify the proposed development impact, but also the other traffic which can be expected to occur during the development of the project. There are numerous methods of evaluating background traffic. The implications of these alternative methods are that certain methodologies may result in deficiencies, while other methodologies may find an acceptable operating conditions.

The cost to mitigate impacts of a land use decision is unrelated to background traffic. Rather, it is related to the cost of replacing the capacity which is consumed by the proposed development. However, it is necessary to understand background traffic in order to evaluate level-of-service. Background traffic is composed of existing traffic demands and growth from new development which will occur over a specific period of time. Both the existing and the growth elements of background traffic contain sub-elements. These include traffic which is generated within Orange County, that which begins and/or ends within the County, and interregional traffic which has neither end in Orange County. CMP legislation stipulates that interregional traffic will not be considered in CMP evaluations with respect to LOS compliance or determining costs of mitigation.

Given that the CMP process is new, there is no existing practice of separating interregional traffic from locally generated traffic. Until a procedure for identifying interregional traffic is developed, local jurisdictions may assume that all interregional traffic occurs on the freeway system. Initially TIA's required for CMP purposes need only analyze the impacts to arterial portions of the CMP Highway System.

Local governments in Orange County are generally consistent in their approach to background traffic. There are three major approaches used. The first is to use historical growth factors which are applied to existing traffic volumes to project future demands. The second is to aggregate the impacts of specific individual projects which have been approved or planned but not built to identify the total approved background traffic on the study area roadway system. A third method is to use computer modeling to identify

total traffic demands which represent both background traffic and project impact traffic. For the present CMP program, it is recommended that the discretion for the appropriate process lie within the local jurisdiction, however, the method to be used in the jurisdiction should be clearly defined in the agency's TIA rules and procedures. In addition, it is recommended that all jurisdictions create a listing of approved development projects and a map showing their locations which would be updated frequently and be available to other jurisdictions on request. The listing should include information related to type and size of land use and phasing for each project.

It is appropriate to periodically update long range forecasts based on development approvals and anticipated development growth in the region and plan a transportation system which will provide the necessary level-of-service for this amount of development. When a development proposal will significantly alter this long-term plan, it will be necessary to address the aggregate of all approved development to assure that there is a long-term solution. However, from a TIA perspective, it is reasonable and practical to consider only that development traffic which can be expected to exist at the time of buildout of a new development proposal. That is to say, for CMP purposes background traffic should be limited to that traffic which is generated by development which will exist at the time of buildout of a proposed development. CEQA requirements may dictate that other background traffic scenarios be analyzed as well.

Capacity Analysis Methodology

Once the projected traffic demands are known, it is necessary to evaluate these demands relative to available and planned roadway capacity. The methodology used in capacity determination in Orange County is relatively uniform. Additionally, the level of service (LOS) component of the CMP Program has identified specific criteria which are to be used in determining level-of-service on the CMP Highway System.

Impact Costs/Mitigation

This element is at the heart of the CMP process; that is to identify the costs of mitigating a land development decision on the CMP System.

The current practice throughout Orange County is to require mitigation only when the level-of-service standard is exceeded. However, some jurisdictions require regular impact mitigation fees and phasing road improvements with development. The growth management requirement of the sales tax Measure M mandates a traffic phasing program. Often, mitigation is equated to construction of roadway improvements to maintain an acceptable level-of-service and/or to maintain the existing level-of-service. In some instances, a pay and go mitigation approach is allowed. This means that new development may pay its fair share and go forward and the provision of improvements remain the responsibility for the local jurisdiction.

In order to assess responsibility for impacts, there are a variety of approaches. One approach is to consider impact traffic as a percent of total traffic. Impact traffic may also be taken as a percentage of existing capacity. Another common approach is to use the net impact of development as a percent of total future traffic demand.

Since CMP legislation requires the identification of costs of land use decisions and impacts

across jurisdictional lines, it is desirable that the CMP program have a consistent method for identifying the costs of development impacts. On the other hand, a wide variety of mitigations can occur from jurisdiction to jurisdiction.

It is recommended that the impact costs be calculated as the total of new development traffic on a roadway link requiring improvement divided by the capacity of the improvement times the cost of the improvement. This can be expressed in a formula as follows:

$$\textbf{Impact Cost} = \frac{\text{Development Traffic}}{\text{Capacity of Improvement}} \times \text{Improvement Cost}$$

Improvements to be included in the cost analysis should be those identified in the jurisdiction's adopted Circulation Element and any additional improvements identified in the development TIA. The total impact cost for a development would be the sum of costs for all significantly impacted links. Funds collected from these assessments could be aggregated and applied to specific projects on an annual basis in accordance with locally established priorities. If project impacts extend across jurisdictional boundaries the impact costs calculated for significantly impacted links in an adjacent jurisdiction should be allocated to that jurisdiction for use in its program of prioritized improvements.

Through this process, progress can be achieved in implementing system improvements without having to wait for 100% of the funds being collected for each individual improvement. In theory, all required improvements will be accomplished over time as new developments are approved which will generate traffic to utilize available and planned system capacity. The costs should be based on recent Unit cost experience in Orange County and may include planning, permitting, preliminary engineering, design, right-of-way, construction, landscaping, construction inspection, and, if applicable, financing costs.

There are two approaches to mitigation. One is traffic reduction and the other is to build improvements to accommodate the new traffic. Traffic reduction through transportation demand ordinances or other regulations which will reduce impacts can be calculated in the same way a development impact would be calculated. But in this case, it would be taken as a credit or a reduction in impact. Mitigation techniques such as TDM or phasing or reduction in project intensity merely reduce for a new development the amount of impact which must be mitigated and are changes which should occur prior to the calculation of project impact costs. A monitoring program should be established to confirm that anticipated reductions are realized.

To comply with the CMP process, a local jurisdiction should accomplish two things. First, it should demonstrate that it is analyzing and mitigating the impact of new development on the CMP Highway System. Second, it should maintain the level-of-service standards or adopt a deficiency plan Consistent with CMP legislation. In order to demonstrate the mitigation which has been undertaken, the local jurisdiction should maintain a record of the cumulative impact cost of all development approvals and the cumulative mitigation value of improvements provided by the local jurisdiction. These could be construction programs or credits from a TDM ordinance or other traffic reduction measures. It is then

only necessary to show on an annual basis that the total improvement costs plus traffic reduction credits are equal to or greater than the total impact cost of new development approvals to prove mitigation compliance.

The maintenance of level-of-service would come through implementation of improvements contained in the 7-year capital improvements element, Measure M and state-funded improvements, additional improvements which may be made in conjunction with development approvals, and from deficiency plans which may be required from time to time. From a TIA perspective, it would be necessary to document the following:

a. the level-of-service on the CMP network at buildout of the proposed development will be: 1) level—of-service "E or better, or 2) will not result in a cumulative increase of more than 0.10 in v/c ratio if the established LOS standard is worse than LOS E.

b. a deficiency plan exists to address the links for which level-of-service is not provided, and

c. a deficiency plan will be developed for a new link when a deficiency will occur.

DOCUMENTATION OF RULES AND PROCEDURES

To assure a clear understanding of the TIA procedures which are necessary to support a viable CMP program, it is recommended that a set of rules and procedures be established by each local jurisdiction. Ideally, these rules and procedures would cover the requirements for the full TIA analysis and would include minimum requirements for the CMP process. Local jurisdictions which prefer not to adopt separate CMP TIA standards could implement standards for CMP requirements within a TIA and maintain their existing approach for all other aspects of their existing TIA process. The following is a summary of the elements which should be included in CMP procedures documentation and the methodologies applicable to each element:

1. **Thresholds for Requiring a TIA for CMP** - Projects with the potential to create an impact of more than 3% of LOS "E' capacity on CMP Highway system links should require a TIA. All projects generating 2,400 or more daily trips should require a TM for CMP evaluation. If a project will have direct access to a CMP link this threshold should be reduced to 1,600 or more daily trips. A TIA should not be required again if one has already been performed for the project as part of an earlier development approval which takes the impact on the CMP Highway System into account.

2. **Existing Conditions Evaluation** - Identify current level-of-service on CMP roadways and intersections where the proposed development traffic will contribute to 3 percent of the existing capacity. Use procedures defined in the level-of-service component for evaluation of level—of-service.

3. **Trip Generation** - ITE trip generation rates or studies from other agencies and locally approved studies for specific land uses.

4. **Internal Capture and Passerby Traffic** - Justification for internal capture should be

included in the discussion. Passerby traffic should be calculated based upon ITE data or approved special studies.

5. **Distribution and Assignment** - Basis for trip distribution should be discussed and should be linked to demographic or market data in the area. Quantitative and/or qualitative information can be used depending on the size of the proposed development. As the size of the project increases, there should be a tendency to use a detailed quantitative approach for trip distribution. Trip assignment should be based on existing and projected travel patterns and the future roadway network and its travel time characteristics.
6. **Radius of Impact/Project Influence** - The analysis should identify the traffic assignment on all CMP roadway links until the impact becomes less than 3 percent of level of service E capacity.
7. **Background Traffic** - Total traffic which is expected to occur at buildout of the proposed development should be identified.
8. **Impact Assessment Period** - This should be the buildout timeframe of the proposed development.
9. **Capacity Analysis Methodology**- The methodology should be consistent with that specified in the level-of—service component of the CMP Program.
10. **Improvement Costs** - The cost of roadway improvements should include all costs of implementation including studies, design, right-of-way, construction, construction inspection, and financing costs, if applicable.
11. **Impact Costs and Mitigation** - The project impact divided by the capacity of a roadway improvement times the cost of the improvement should be identified for each significantly impacted CMP link and summed for the study area.
12. **Projected Level-of-Service** - The TIA should document that the projected level-of-service on all CMP links in the study area will be at Level-of-Service "E" or the existing level-of-service whichever is less, or that a deficiency plan exists or will be developed to address specific links or intersections.

SECTION 5 – APPENDICES

Appendix A – Summary of TIA Update Survey Results (Available Upon Request)

Appendix B – Deviation of Thresholds for Projects Requiring TIA Analysis

APPENDIX B

DERIVATION OF THRESHOLDS FOR PROJECTS REQUIRING TRAFFIC IMPACT ANALYSIS

The TIA process recommendation is to require a TIA for any project generating 2,400 or more daily trips. This number is based on the desire to analyze any impacts which will be 3% or more of the existing capacity. Since most CMP Highway System will be four lanes or more, the capacity used to derive the threshold is a generalized capacity of 40,000 vehicles/day. The calculations are as follows:

40,000 veh./day x 3% = 1,200 veh./day

Assuming 50/50 distribution of project traffic on a CMP link

1,200 x 2 = 2,400 veh./day total generation

As can be seen, a project which will generate 2,400 trips/day will have an expected maximum link impact on the CMP system of 1,200 trips/day based on a reasonably balanced distribution of project traffic. On a peak-hour basis, the 3% level of impact would be 120 peak-hour trips. For intersections, a 3% level of impact applied to the sum of critical volume (1,700 veh./hr.) would be 51 vehicles per hour.

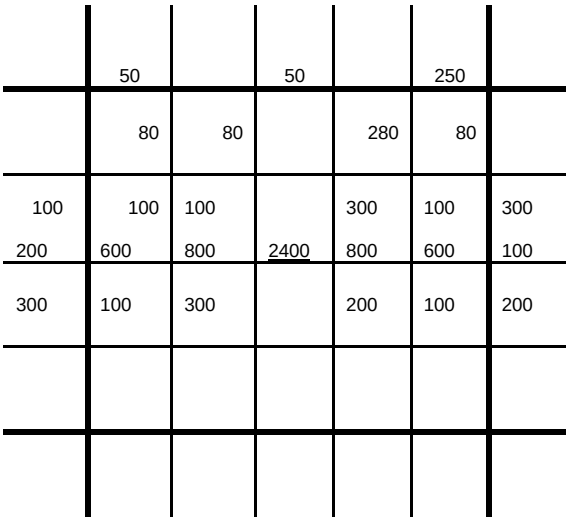
A level of impact below 3% is not recommended because it sets thresholds which are generally too sensitive for the planning and analytical tools available. Minor changes in project assumptions can significantly alter the results of the analysis and the end result can be additional unnecessary cost to the developer and additional review time by staff with little benefit. Additionally, a lower threshold of significance will expand the study area, which also increases effort and costs, and increases the probability that the analysis would extend beyond jurisdictional boundaries.

The following illustration shows that the 2,400 trip/day threshold would be expected to produce a 3% impact on the CMP System only when the project has relatively direct access to a CMP link. As a project location moves further off the CMP System the expected impacts is reduced. With a more directional distribution of project traffic a development with direct CMP System access cold produce a 3% impact with somewhat lower daily trip generation.

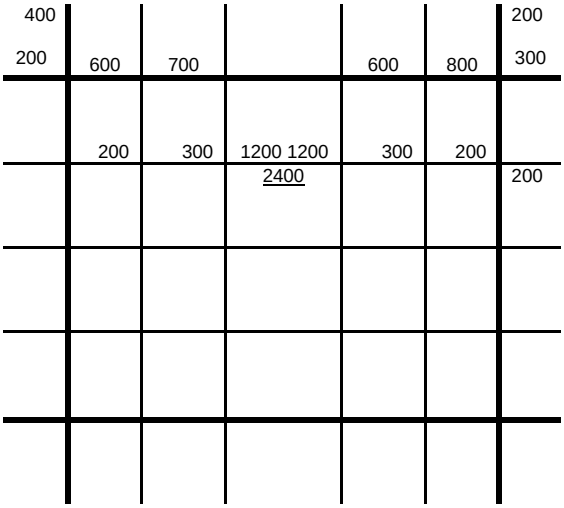
The table included on the following page illustrates the daily trip generation thresholds which would produce various levels of impact on the CMP System for project locations with and without direct access to the system. Based on a 3% impact the trip generation thresholds for requiring a TIA are 1,600 veh./day with direct CMP System access and 2,400 veh./day if a project does not have direct CMP System access.

CMP Highway System Impacts for Development Generating 2,400 trips/day

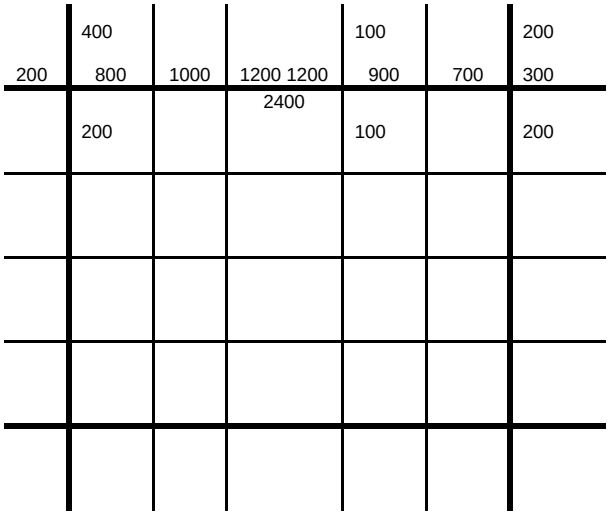
Based on proximity to CMP System



MAXIMUM IMPACT < 1%



MAXIMUM = 1.8%



MAXIMUM = 3%
COULD BE 4.5% WITH 75/25 SPLIT

Alternative Criteria

Assume 75/25 distribution

For direct access to CMP System:
1,200/.75 = 1,600 veh./day

For no direct CMP System Access:
Approximately 1/3 less impact on CMP System
1,600 x 3/2 = 2,400 veh./day

Daily Trip Generation

Significant Impact	Direct Access	No Direct Access
1%	500	800
2%	1,100	1,600
3%	1,600	2,400

Appendix B-2: Traffic Impact Analysis Exempt Projects

Appendix B-2: Traffic Impact Analysis Exempt Projects

Projects exempt from the requirements of a mandatory, CMP Traffic Impact Analysis are listed below. This list is not meant to be all-inclusive. Any inquiries regarding additional exemptions shall be transmitted in writing to the Orange County Transportation Authority, attention CMP Program Manager.

Project Not Requiring a CMP TIA Analysis:

1. Applicants for subsequent development permits (i.e., conditional use permits, subdivision maps, site plans, etc.) for entitlement specified in and granted in a development agreement entered into prior to July 10, 1989.[1]
2. Any development application generating vehicular trips below the Average Daily Trip (ADT) threshold for CMP Traffic Impact Analysis, specifically, any project generating less than 2,400 ADT total, or any project generating less than 1,600 ADT directly onto the CMPHS. [1, 2]
3. Final tract and parcel maps. [1, 2, 3]
4. Issuance of building permits. [1, 2, 3]
5. Issuance of certificates of use and occupancy. [1, 2, 3]
6. Minor modifications to approved developments where the location and intensity of project uses have been approved through previous and separate local government actions prior to January 1, 1992. [1, 2, 3]

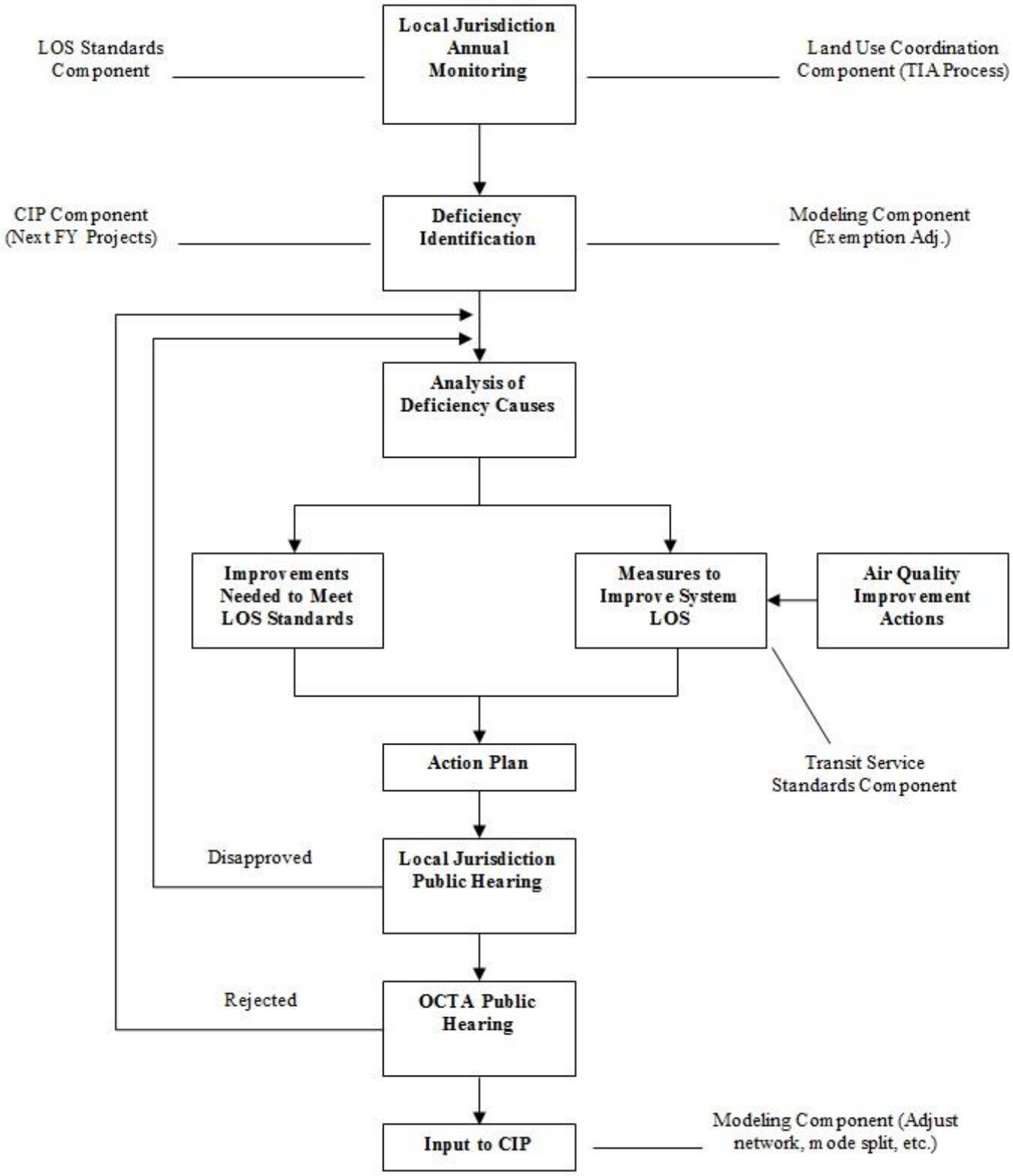
[1] Vehicular trips generated by CMP TIA-exempt development applications shall not be factored out in any traffic analyses or levels of service calculations for the CMPHS.

[2] Exemption from conduction a CMP TIA shall not be considered an exemption from such projects' participation in approved, transportation fee programs established by the local jurisdiction.

[3] A CMP TIA is not required for these projects only in those instances where development approvals granting entitlement for the project sites were granted prior to the effective date of CMP TIA requirements (i.e., January 1992).

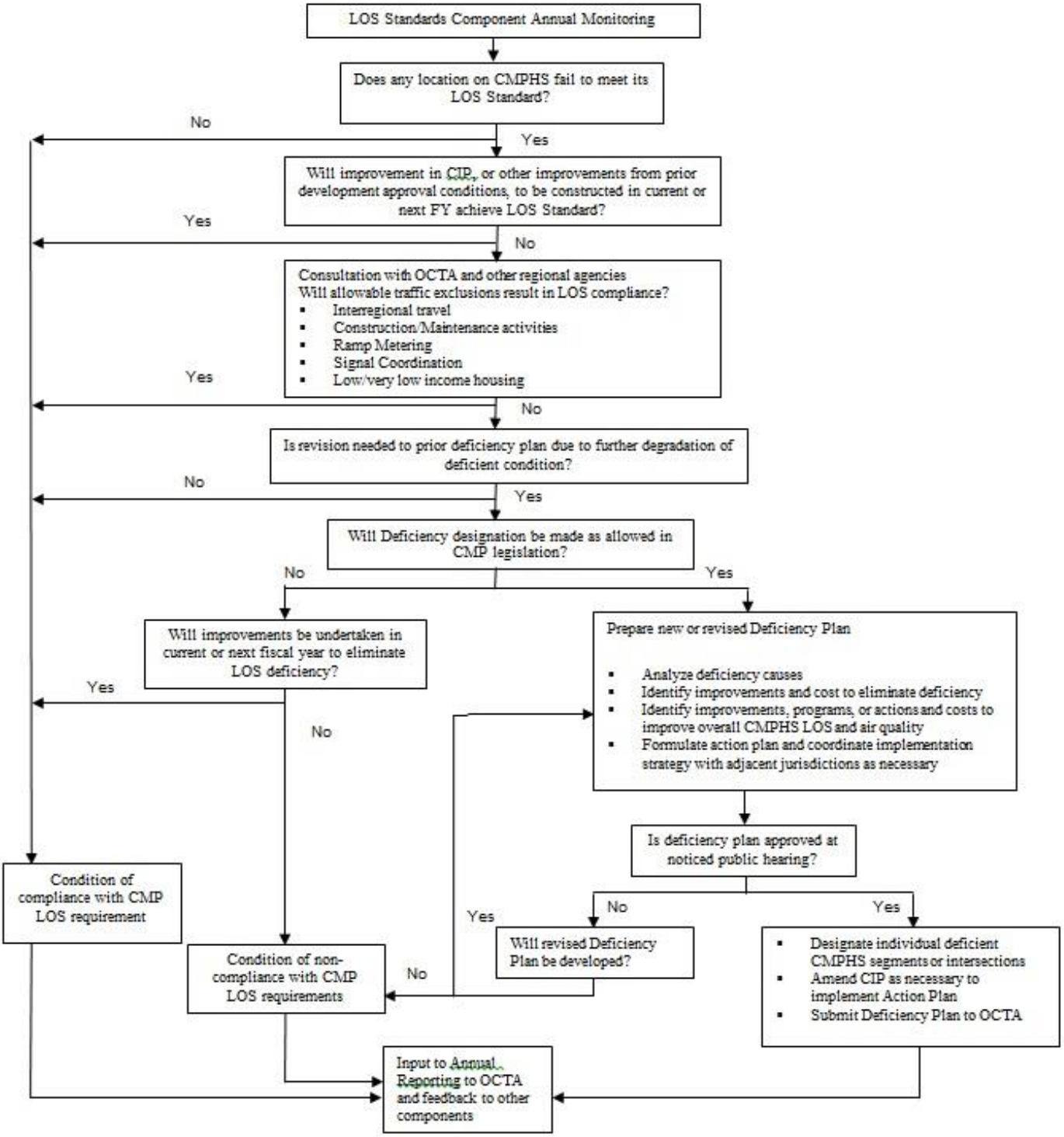
Appendix C-1: CMP Deficiency Plan Flow Chart

APPENDIX C-1: CMP Deficiency Plan Flow Chart



Appendix C-2: Deficiency Plan Decision Flow Chart

APPENDIX C-2: Deficiency Plan Decision Flow Chart



Appendix D: CMP Monitoring Checklists

APPENDIX C

Congestion Management Program (CMP)

Jurisdiction:	Choose an item.

CMP Monitoring Checklist: Level of Service (LOS)				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Check "Yes" if either of the following apply: • There are no CMP intersections in your jurisdiction. • Factoring out statutorily-exempt activities[1], all CMP intersections within your jurisdiction are operating at LOS E (or the baseline level, if worse than E) or better.	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 1 NEED TO ANSWER THE REMAINING QUESTIONS.				
2.	If any, please list those intersections that are not operating at the CMP LOS standards. • _____ • _____ • _____			☐
3.	Will deficient intersections, if any, be improved by mitigation measures to be implemented in the next 18 months or improvements programmed in the first year of any recent funding program (i.e. local jurisdiction CIP, Measure M CIP)?	☐	☐	☐
	a. If not, has a deficiency plan been developed for each intersection that will be operating below the CMP LOS standards?	☐	☐	☐
Additional Comments:				

[1]The following activities are statutorily-exempt from deficiency determinations: interregional travel, traffic generated by the provision of low and very low income housing, construction rehabilitation or maintenance of facilities that impact the system, freeway ramp metering, traffic signal coordination by the state or multi-jurisdictional agencies, traffic generated by high-density residential development within 1/4 mile of a fixed-rail passenger station, traffic generated by mixed-use residential development within 1/4 mile of a fixed-rail passenger station.

CMP Monitoring Checklist: Deficiency Plans				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Check "Yes" if either of the following apply: • There are no CMP intersections in your jurisdiction. • Factoring out statutorily-exempt activities[2], all CMP Highway System (CMPHS) intersections within your jurisdiction are operating at LOS E (or the baseline level, if worse than E) or better.	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 1 NEED TO ANSWER THE REMAINING QUESTIONS.				
2.	If any, please list those intersections found that are not operating at the CMP LOS standards. • _____ • _____ • _____			☐
3.	Are there improvements to bring these intersections to the CMP LOS standard scheduled for completion during the next 18 months or programmed in the first year of the CIP?	☐	☐	☐
NOTE: ONLY THOSE AGENCIES THAT CHECKED "NO" FOR QUESTION 3 NEED TO ANSWER THE REMAINING QUESTIONS.				
4.	Has a deficiency plan or a schedule for preparing a deficiency plan been submitted to OCTA?	☐	☐	☐
5.	Does the deficiency plan fulfill the following statutory requirements? :			
	a. Include an analysis of the causes of the deficiency?	☐	☐	☐
	b. Include a list of improvements necessary to maintain minimum LOS standards on the CMPHS and the estimated costs of the improvements?	☐	☐	☐
	c. Include a list of improvements, programs, or actions, and estimates of their costs, which will improve LOS on the CMPHS and improve air quality?	☐	☐	☐
	i. Do the improvements, programs, or actions meet the criteria established by South Coast Air Quality Management District (SCAQMD) (see the CMP Preparation Manual)?	☐	☐	☐

[2]The following activities are statutorily-exempt from deficiency determinations: interregional travel, traffic generated by the provision of low and very low income housing, construction rehabilitation or maintenance of facilities that impact the system, freeway ramp metering, traffic signal coordination by the state or multi-jurisdictional agencies, traffic generated by high-density residential development within 1/4 mile of a fixed-rail passenger station, traffic generated by mixed-use residential development within 1/4 mile of a fixed-rail passenger station.

CMP Monitoring Checklist: Deficiency Plans (cont.)				
CMP Checklist		**YES**	**NO**	**N/A**
6.	Are the capital improvements identified in the deficiency plan programmed in your seven-year CIP?	☐	☐	☐
7.	Does the deficiency plan include a monitoring program that will ensure its implementation?	☐	☐	☐
8.	Does the deficiency plan include a process to allow some level of development to proceed pending correction of the deficiency?	☐	☐	☐
9.	Has necessary inter-jurisdictional coordination occurred?	☐	☐	☐
10.	Please describe any innovative programs, if any, included in the deficiency plan:			☐
Additional Comments:				

CMP Monitoring Checklist: Land Use Coordination				
CMP Checklist		YES	NO	N/A
1.	Have you maintained the CMP traffic impact analysis (TIA) process you selected for the previous CMP?	☐	☐	
	a. If not, have you submitted the revised TIA approach and methodology to OCTA for review and approval?	☐	☐	☐
2.	Did any development projects require a CMP TIA during this CMP cycle?[3]	☐	☐	
NOTE: ONLY THOSE AGENCIES THAT CHECKED "YES" FOR QUESTION 2 NEED TO ANSWER THE REMAINING QUESTIONS.				
3.	If so, how many?		_____	
4.	Please list any CMPHS links & intersections that were projected to not meet the CMP LOS standards (indicate whether any are outside of your jurisdiction). • _____ • _____ • _____			☐
	a. Were mitigation measures and costs identified for each and included in your seven-year CIP?	☐	☐	☐
	b. If any impacted links & intersections were outside your jurisdiction, did your agency coordinate with other jurisdictions to develop a mitigation strategy?	☐	☐	☐
5.	If a local traffic model was/will be used, did you follow the data and modeling consistency requirements as described in the CMP Preparation Manual (available online at http://www.octa.net/pdf/cmpprepmanual.pdf)?	☐	☐	☐
Additional Comments:				

[3]Exemptions include: any development generating less than 2,400 daily trips, any development generating less than 1,600 daily trips (if it directly accesses a CMP highway), final tract and parcel maps, issuance of building permits, issuance of certificate of use and occupancy, and minor modifications to approved developments where the location and intensity of project uses have been approved through previous and separate local government actions prior to January 1, 1992.

CMP Monitoring Checklist: Capital Improvement Program (CIP)				
CMP Checklist		**YES**	**NO**	**N/A**
1.	Did you submit a seven-year CIP to OCTA by June 30?	☐	☐	☐
2.	Does the CIP include projects to maintain or improve the performance of the CMPHS (including capacity expansion, safety, maintenance, and rehabilitation)?	☐	☐	☐
3.	Is it consistent with air quality mitigation measures for transportation- related vehicle emissions?	☐	☐	☐
4.	Was the Web Smart CIP provided by the OCTA used to prepare the CIP?	☐	☐	☐
Additional Comments:				

I certify that the information contained in this checklist is true.

Name (Print)	Title	Signature	Date

Appendix E: Capital Improvement Programs

Available online at:

http://www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/

Appendix F: Measure M Program of Projects

OCGO PROJECTS

FREEWAY IMPROVEMENT PROGRAM

Interstate 5 (I-5) Projects

- (A) **I-5**, SR-55 to SR-57
- (B) **I-5**, El Toro "Y" Area to SR-55
- (C) **I-5**, SR-73 to El Toro Road
- (C) **I-5**, Avenida Pico to San Juan Creek Road
- (D) **I-5** Highway Interchanges

State Route 22 (SR-22) Projects

- (E) **SR-22** Access Improvements

State Route 55 (SR-55) Projects

- (F) **SR-55**, I-405 to I-5
- (F) **SR-55**, I-5 to SR-91

State Route 57 (SR-57) Projects

- (G) **SR-57** NB, Orangewood Avenue to Katella Avenue
- (G) **SR-57** NB, Katella Avenue to Lincoln Avenue
- (G) **SR-57** NB, Orangethorpe Avenue to Lambert Road
- (G) **SR-57** NB, Lambert Road to Tonner Canyon Road

State Route 91 (SR-91) Projects

- (H) **SR-91** WB, I-5 to SR-57
- (I) **SR-91**, SR-57 to SR-55
- (J) **SR-91**, SR-55 to Riverside County Line

Interstate 405 (I-405) Projects

- (K) **I-405**, I-605 to SR-73
- (L) **I-405**, SR-55 to El Toro "Y" Area

Interstate 605 (I-605) Projects

- (M) **I-605** Katella Interchange Improvements

Freeway Mitigation Restoration Projects
Part of Projects A-M

Freeway Mitigation Acquisition Projects
Part of Projects A-M

STREETS & ROADS

- (O) **Grade Separation Program** (shown)
- (P) **Signal Synchronization Project Corridors**

TRANSIT PROJECTS

- (R) **Grade Separation and Station Improvement Projects**
- (S) **Transit Extensions to Metrolink**
- (T) **Metrolink Station Conversion to accept Future High-Speed Rail Systems**

OC GO PROJECTS NOT SHOWN

Project N: Freeway Service Patrol

Project O: Streets & Roads - Regional Capacity Program

Project Q: Local Fair Share Program

Project R: Grade crossing and Trail Safety Enhancements

Metrolink Service Expansion Program

Project U: Senior Mobility Program (SMP), Senior Non-emergency Medical Transportation Program (SNEMT), and Fare Stabilization Programs

Project V: Community Based Transit/Circulators

Project W: Safe Transit Stops

Project X: Environmental Cleanup Program

Appendix G: Orange County Subarea Modeling Guidelines

Available online at:

http://www.octa.net/Plans-and-Programs/Congestion-Management-Program/Overview/