



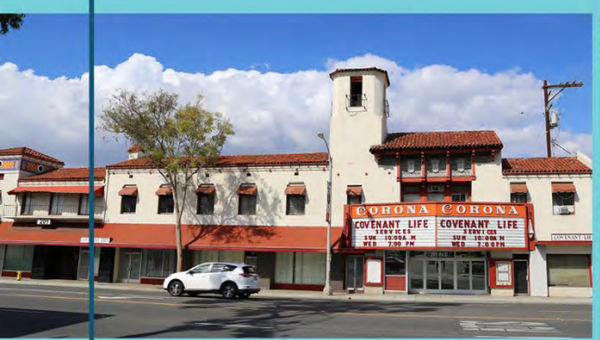
CORONA GENERAL PLAN TECHNICAL UPDATE

For City of Corona

Volume IIb

Draft 2019 | Draft Environmental Impact Report

State Clearinghouse No. 2018081039









December 2019 | Draft Environmental Impact Report
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CORONA GENERAL PLAN TECHNICAL UPDATE

for City of Corona

Volume IIb – Appendices J through O

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PLACEWORKS

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LOCAL REGULATIONS AND STANDARDS

Print

Corona Municipal Code

CHAPTER 9.24
LOUD AND UNNECESSARY NOISES

Sections

9.24.010 Standards.

9.24.020 Loudspeakers, amplifying devices – Permit – Required.

9.24.030 Loudspeakers, amplifying devices – Permit – Appeal.

9.24.040 Regulations for use.

Statutory reference:

For statutory provisions on loud and unnecessary noise, see Penal Code § 415

9.24.010 Standards.

(A) No person within the city shall make or cause the making of, or suffer or permit to be made, upon any premises owned, occupied or controlled by such person or upon any public street, alley, right-of-way, park or public property any loud, unusual, penetrating or boisterous noise, disturbance or commotion which shall cause discomfort or annoyance to a reasonable person of normal sensitivity.

(B) The standards which shall be considered in determining whether a violation of this section exists shall include, but shall not be limited to, the following:

(1) The volume of the noise;

(2) The intensity of the noise;

(3) Whether the origin of the noise is natural or unnatural;

(4) Whether the nature of the noise is usual or unusual;

(5) The volume and intensity of the background noise, if any;

(6) Whether the noise can be heard from a distance of 50 feet or more from the noise source; or from a distance determined to be reasonable by the officer at the scene;

(7) The nature and zoning of the area within which the noise emanates;

(8) The density of inhabitation of the area within which the noise emanates;

(9) The time of the day or night the noise occurs;

(10) The duration of the noise;

(11) Whether the noise is recurrent, intermittent or constant;

(12) Whether the noise is produced by a commercial or noncommercial activity.

(`78 Code, § 9.24.010.) (Ord. 3098 § 1 (part), 2011)

9.24.020 Loudspeakers, amplifying devices – Permit – Required.

It is unlawful for any person other than personnel of law enforcement or governmental agencies to install, use or operate a loudspeaker or amplifying device in a fixed or movable position or mounted upon any vehicle located on any street within the city without a permit so to do so from the Chief of Police or his or her designee. Such permit shall be issued unless the Chief of Police or designee determines that the physical placement or condition of the loudspeaker will result in a clear danger to public safety. In such determination, the Chief of Police or designee shall not consider the anticipated message that may be disseminated from the loudspeaker or amplifying device. If a permit is denied, specific grounds for such denial shall be provided to the applicant in writing.

(`78 Code, § 9.24.020.) (Ord. 3098 § 1 (part), 2011)

9.24.030 Loudspeakers, amplifying devices – Permit – Appeal.

Upon denial by the Chief of Police of an application for a permit pursuant to this section, the applicant may appeal to the City Council from the determination of the Chief of Police within two business days thereafter by filing an appeal for hearing by the Council at its next regular meeting. Upon such appeal, the Council may reverse, affirm or modify in any regard the determination of the Chief of Police. To carry out the judgment of the Council upon appeal, the Chief of Police shall be directed to act in conformity with the judgment of the Council.

(`78 Code, § 9.24.030.) (Ord. 3098 § 1 (part), 2011)

9.24.040 Regulations for use.

Use of a loudspeaker or amplifying device in the city shall be subject to the following regulations:

(A) Operation is permitted only between the hours of 8:00 a.m. and 9:00 p.m.

(B) Such equipment installed upon a vehicle shall not be operated unless the vehicle is operating at a speed of at least ten miles per hour, except when said vehicle is stopped or impeded by traffic. Where stopped by traffic, the loudspeaker or amplifying device shall not be operated for longer than one minute at each stop.

(C) Sound shall not be emitted form a loudspeaker or amplifying device, other than those utilized by law enforcement personnel or governmental agencies, within 100 yards of any hospital, school, church or courthouse, or from a distance determined to be reasonable by the officer at the scene.

(D) No obscene, lewd, indecent, slanderous or other speech made illegal by valid law shall be emitted from a loudspeaker or amplifying device.

(E) No sound emitted from a loudspeaker or amplifying device located on property adjacent to

residential land uses shall be discernible beyond the boundary line of the parcel, except as provided in § 17.84.040.

(F) The noise emitted by a loudspeaker or amplifying device shall comply with the requirements of this code, including § 9.24.010.

(G) The volume of sound emitted by a loudspeaker or amplifying device shall not exceed 75 decibels, as defined and measured pursuant to § 17.84.040.

(H) No vehicle on which a loudspeaker or amplifying device is being operated shall be driven on the same street past the same point more than twice in a period of one hour.

(Ord. 3098 § 1 (part), 2011)

17.84.040 Noise.

(A) **Purpose and intent**.

(1) The purpose of this section is to regulate noise and vibration in the interest of the public health, safety and general welfare. The city finds that certain noise levels and vibrations are detrimental to the public health, safety and general welfare and that the primary sources of noise in the city are freeways, highways, manufacturing uses, railroads, the airport and construction noise. The noise element of the General Plan contains the city's policies regarding noise and identifies noise contours for existing and future roadways and the Corona Municipal Airport, which are implemented by this chapter. The General Plan noise element shall govern all noise standards and policies.

(2) In order to control unnecessary, excessive and annoying noise and vibration in the city, it is hereby declared to be the policy of the city to prohibit such noise and vibration generated from or by all sources as specified in this chapter. It shall be the policy of the city to maintain quiet in those areas which exhibit low noise levels and to implement programs to reduce noise in those areas within the city where noise levels are above acceptable values. It is the intent of the city to minimize noise impacts to adjacent land uses pursuant to the standards identified herein.

(B) **Definitions**. Terms found in this chapter shall be defined as follows. Additional definitions are found in the noise element of the General Plan.

(1) "**A-weighted sound level**." The sound pressure level in decibels as measured on a sound level meter using the A-weighted filter network. The A-weighted filter network is designed to simulate the response of the human ear. The A-weighted sound level is expressed by the symbol dBA.

(2) "**Ambient noise**." The composite of noise from all existing sources near and far. The ambient noise level constitutes the normal or existing level of environmental noise at a given location, excluding any alleged offensive noise.

(3) "**Cumulative period**." An additive period of time composed of individual time segments which may be continuous or interrupted.

(4) "**Community noise equivalent level (CNEL)**." The average equivalent A-weighted sound level during a 24 hour day, obtained after addition of five decibels to sound levels between 7:00 p.m. and 10:00 p.m. and the addition of ten decibels to sound levels between 10:00 p.m. and 7:00 a.m.

(5) "**Decibel (dB)**." A unit for measuring the amplitude of a sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals.

(6) "**Impulsive noise**." A noise of short duration, usually less than one second, and of high intensity, with an abrupt onset and rapid decay.

(7) "**Noise study**." An acoustical analysis performed by a qualified noise engineer which determines the potential noise impacts of a roadway, land use or operation of equipment. The noise study will generate noise contours and recommend mitigation for noise impacts which exceed the city's noise standards.

(8) "**Sensitive land uses**." Those specific land uses which have associated human activities that may be subject to stress or significant interference from noise. Sensitive land uses include single family residential, multiple family residential, churches, hospitals and similar health care institutions, convalescent homes, libraries and school classroom areas.

(9) "**Simple tone noise**." A noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished. When measured, a simple tone noise shall exist if the one-third octave band sound pressure levels in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two continuous one-third octave bands as follows: 5 dB for frequencies of 500 hertz or above or by 15 dB for frequencies less than or equal to 125 hertz.

(10) "**Sound attenuation device**." An enclosure, blanket, vault, box, wall, fence, panel, baffle, coating, material, silencer, or other appurtenance, mechanism, or device intended to reduce the noise level of mechanical equipment.

(C) **Noise standards**.

(1) The noise ordinance identifies two separate types of noise sources: transportation and stationary. Transportation related noise sources, such as freeways, airports and railroads, are identified within this chapter and are mainly for the planning stages of project development. The noise metric used for this noise type is the Community Noise Equivalent Level (CNEL), which is a 24 hour time weighted average noise level. The other type of noise standard is for stationary noise sources, such as industrial or construction noise, that may be intrusive to a neighboring private property. The noise metric used for stationary sources is defined as noise levels that cannot be exceeded for certain percentages of time. The noise standards shown in Table 1 are for regulating the impact of stationary noise sources to a neighboring private property. Standards for transportation related noise are found in Table 2.

(2) Stationary noise sources.

TABLE 1
STATIONARY NOISE SOURCE STANDARDS

TYPE OF LAND USE	MAXIMUM ALLOWABLE NOISE LEVELS			
	Exterior Noise Level		Interior Noise Level	
	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Single-, Double- and Multi-Family Residential	55 dBA	50 dBA	4 [illegible]	35 dBA
Other Sensitive Land Uses	55 dBA	50 dBA	4 [illegible]	35 dBA
Commercial Uses	65 dBA	60 dBA	N [illegible]	N [illegible]
Industrial, Manufacturing or Agricultural	75 dBA	70 dBA	N [illegible]	N [illegible]

(a) Each of the noise limits specified here shall be reduced by 5 dBA for impulse or simple tone noises; provided, however, that if the ambient noise level exceeds the resulting standards, the ambient shall be the standard.

(b) If the measurement location is on the boundary between two different zones, the lower noise level standard applicable to the zone shall apply.

(c) If the intruding noise is continuous and cannot be reasonably discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the source is in operation shall be compared directly to the allowable noise level standards as specified respective to the measurement location's designated land use and for the time of the day the noise level is measured. The reasonableness of temporarily discontinuing the noise generation by an intruding noise source shall be determined by the Code Enforcement Officer for the purpose of establishing the existing ambient noise level at the measurement location.

(d) Exterior noise:

1. It shall be unlawful for any person, entity or operation at any location within the incorporated area of the city to create any noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which causes the noise level when measured on any other property to exceed:

a. The noise standard for a cumulative period of more than 30 minutes in any hour;

b. The noise standard plus 5 dB for a cumulative period of more than 15 minutes in any hour;

c. The noise standard plus 10 dB for a cumulative period of more than five minutes in any hour;

d. The noise standard plus 15 dB for a cumulative period of more than one minute in any hour; or

e. The noise standard plus 20 dB for any period of time.

2. In the event the ambient noise level exceeds any of the first four noise limit categories above, the cumulative period applicable to the category shall be increased to reflect the ambient noise level. In the event the ambient noise level exceeds the fifth noise category, the maximum allowable noise level under said category shall be increased to reflect the maximum ambient noise level.

(e) Interior noise. It shall be unlawful for any person at any location within the incorporated area of the city to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such a person which causes the noise level when measured within any other residential dwelling unit or sensitive land use to exceed:

1. The noise standard for a cumulative period of more than five minutes in any hour;

2. The noise standard plus 5 dB for a cumulative period of more than one minute in any hour; or

3. The noise standard plus 10 dB, or the maximum measured ambient, for any period of time.

(3) Transportation noise sources.

TABLE 2
TRANSPORTATION NOISE SOURCE STANDARDS

TYPE OF LAND USE	EXTERIOR NOISE LEVEL	INTERIOR NOISE LEVEL
	(Private Outdoor Living Areas)	
Residential (Roadway)	65CN EL	4 5N E

Residential (Airport)	65CN	EL	4	5N	E
Other sensitive land uses (Roadway)	65CN	EL	4	5N	E
Other sensitive land uses (Airport)	65CN	EL	4	5N	E
Hotels/Motels (Roadway)	65CN	EL	4	5N	E
Hotels/Motels (Airport)	65CN	EL	4	5N	E

(a) **Roadway noise**. A noise study shall be performed prior to the construction of new master planned roads, roadway improvements, rail lines and/or prior to the construction of residential or sensitive land uses adjacent to existing or master planned roads or railways. The noise study shall identify the existing and future noise contours for the roadway and propose mitigation measures to reduce the noise impacts to a maximum of 65 dBA CN EL in the private outdoor living area of residences and a maximum interior noise level of 4 5 dBA CN EL for residential and sensitive land uses, as shown in Table 2.

(b) **Airport noise**. Sensitive land uses, site-built homes and institutional uses are prohibited in airport noise contours above 65 dBA CN EL. All subdivisions within two miles of the Corona Municipal Airport or within the 65 dBA CN EL contour shall show and record an avigation easement for the benefit of the airport. The avigation easement shall provide notification to potential buyers and occupants of the presence of the easement and the potential for over flights and aircraft noise.

(D) **Special provisions**.

(1) **Mechanical equipment in residential zones.** Upon application for a building permit to install mechanical equipment, such as air conditioner and pool equipment, in a residential zone, the equipment shall be setback at least ten feet from an adjoining property line except where a five foot high block sound wall is maintained extending a distance of two feet on each side of such equipment and situated either between such equipment and the property line or on said property line. Exception: Mechanical equipment in residential zones shall be permitted closer than ten feet from an adjoining property line without a five foot high block sound wall when sound attenuation devices approved by the Building Official are installed. The noise level with sound attenuation devices installed shall comply with the limits and conditions specified in § 1 8 4 0 4 (Owner's responsibility. The owner shall maintain the sound attenuation devices shall be maintained and any approvals shall not be construed to permit violations of this code.

(2) **Construction noise.** Construction noise is prohibited between the hours of 8 :00 p.m. to 7:00 a.m., Monday through Saturday and 6:00 p.m. to 10:00 a.m. on Sundays and federal holidays. Construction noise is defined as noise which is disturbing, excessive or offensive and constitutes a nuisance involving discomfort or annoyance to persons of normal sensitivity residing in the area, which is generated by the use of any tools, machinery or equipment used in connection with construction operations.

(3) **Noise devices.** In accordance with Chapter 9.24 , no loudspeaker, bells, gongs, buzzers, mechanical equipment or other sounds, attention-attracting or communication device associated with any use adjacent to residential or sensitive land uses shall be discernible beyond the boundary line of the parcel, except fire protection devices, burglar alarms and church bells. N oise generated by these sources shall be enforced by the Police Department.

(4) **Noisy animals**. Noise generated by animals shall be regulated by the Police Department in accordance with Chapter 6.11.

(E) **Exemptions**. The following activities shall be exempt from these noise standards:

(1) Special events pursuant to an approved special use permit. Noise impacts shall be evaluated and conditioned as part of the special use permit;

(2) Filming pursuant to a film permit. Noise impacts shall be evaluated and conditioned as part of the film permit;

(3) Activities conducted on public parks, public playgrounds and public or private school grounds, including school athletic and entertainment events that are conducted under the sanction of the school or which a license or permit has been duly issued pursuant to any provision of city code;

(4) Noise sources associated with the maintenance of real property, provided the activities take place between the hours of 7:00 a.m. to 8:00 p.m. on any day except Sunday or between the hours of 9:00 a.m. to 8:00 p.m. on Sunday;

(5) Any activity too the extent regulation thereof has been preempted by state or federal law;

(6) Repairs to and replacement of mechanical equipment in residential zones installed by permit prior to May 20, 1993 shall be exempt from the requirements in division (D) of this section;

(7) Noise variances granted pursuant to subsection (H)(1) below;

(8) Short-term, non-continuous operations associated with government and public utility facilities that are necessary to maintain the delivery of services for the benefit of public health and safety.

(F) **Noise level measurements**. All noise shall be measured in accordance with the following standards. Measurements shall be taken of the ambient noise level and any alleged offensive noise. If the measurement location is on the boundary of two different noise zones, the lower noise level standard shall apply.

(1) **Sound level meter**. A sound level meter shall mean an instrument meeting the American National Standards Institute's S1.4-1971 for Type 1 sound level meters or an instrument and the associated recording and analyzing equipment which will provide equivalent data.

(2) **Ambient noise**. A measurement of the ambient noise level shall be taken according to the procedures in this chapter. If the ambient noise level exceeds the standard, the ambient level shall be the standard. If an alleged intruding noise source is continuous and cannot be reasonably discontinued or stopped for a time period whereby the ambient noise level can be determined, the measured noise level obtained while the alleged intruding noise source is in operation shall be compared directly to the applicable noise level standard.

(G) **Noise studies required**. As referenced in division (C) of this section, there are essentially two different types of noise sources that have been identified in Corona and each has its own noise metrics as well as its own required noise studies. The noise metrics used for transportation related noise sources is the CNEL which is a 24-hour time weighted average noise level. The noise metrics used for stationary sources are defined as noise levels that cannot be exceeded for certain percentages of time.

(1) **Predevelopment noise studies**. A predevelopment noise study is performed prior to development and is designed to project future noise levels and recommend mitigation measures to be implemented in project development. All noise studies shall be prepared by a registered

noise engineer as approved by the city. N oise studies will be required for the construction of master planned roadways, for development adjacent to master planned roadways, when a noise generating use, such as a factory, is proposed in proximity to residential uses and when residential uses are proposed in proximity to an existing noise source. The need for a noise study will be determined at development plan review. Predevelopment noise studies shall project future noise levels based on proposed uses, traffic volumes and other relevant future conditions. Existing and projected noise shall be evaluated pursuant to the noise standards within this chapter and the noise element of the General Plan. Mitigation measures shall be proposed to bring noise levels into compliance with these standards. Mitigation measures may consist of walls, berms, setbacks, landscaping, building materials, construction methods and any other means whereby noise can be reduced to the maximum amounts within this chapter.

(2) **Studies of existing stationary noise**. At times it will be necessary to study the noise generated by an existing source, either due to alleged violations of the noise ordinance or for monitoring purposes. These noise studies shall be prepared by a registered noise engineer as approved by the city in accordance with the standards in Table 1.

(H) **Noise variance**.

(1) The owner or operator of a noise or vibration source which violates any of the provisions of this chapter may file an application with the Community Development Department for a variance from the provisions thereof wherein said owner or operator shall set forth all actions taken to comply with the provisions, the reasons why immediate compliance cannot be achieved, a proposed method of achieving compliance and a proposed time schedule for its accomplishment. The application shall be accompanied by a fee as determined by City Council resolution. A separate application shall be filed for each noise source; provided, however, that several fixed sources on a single property may be combined into one application. An application for a variance shall remain subject to prosecution under the terms of this chapter until a variance is granted.

(2) The Board of Zoning Adjustment shall evaluate all applications for variance from the requirements of this chapter and may grant the variances with respect to time for compliance, subject to such terms, conditions and requirements as it may deem reasonable to achieve maximum compliance with the provisions of this chapter. The terms, conditions and requirements may include, but shall not be limited to, limitations on noise levels and operating hours. Each such variance shall set forth in detail the approved method of achieving maximum compliance and a time schedule for its accomplishment. In its determinations, the Board shall consider the following:

(a) The magnitude of the nuisance caused by the offensive noise;

(b) The uses of property within the area of impingement by the noise;

(c) The time factors related to study, design, financing and construction of remedial work;

(d) The economic factors related to age and useful life of the equipment;

(e) The general public interest, welfare and safety.

(3) Any variance granted by the Board shall be by resolution and shall be transmitted to the Code Enforcement Officer for enforcement. Any violation of the terms of the variance shall be unlawful and enforced pursuant to division (I) of this section.

(I) **Enforcement**.

(1) It shall be unlawful for any person at any location within the City of Corona to create any exterior noise or to allow the creation of any noise on property owned, leased, occupied or

otherwise controlled by such person, which causes the noise level when measured according to [illegible] 17.8 4 .040 (C)

(2) No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this chapter while such person is engaged in the performance of his or her duty.

(3) Any person violating any provision of this chapter shall be deemed guilty of a misdemeanor.

(4) The operation or maintenance of any device, instrument, vehicle or machinery in violation of any noise standard identified in this chapter is declared to be a public nuisance and may be abated pursuant to the nuisance abatement procedure in Chapter 8.32 of this code.

(5) Pursuant to § 1.08.020(A) of this code, each person shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of any provision of this chapter is committed, continued or permitted by such person and shall be punished accordingly.

(Prior code § 17.8 4 .040 (D) (part), 1993: Ord. 2161 § 1 (part), 1993.)

17.8 4 .050 Vibration.

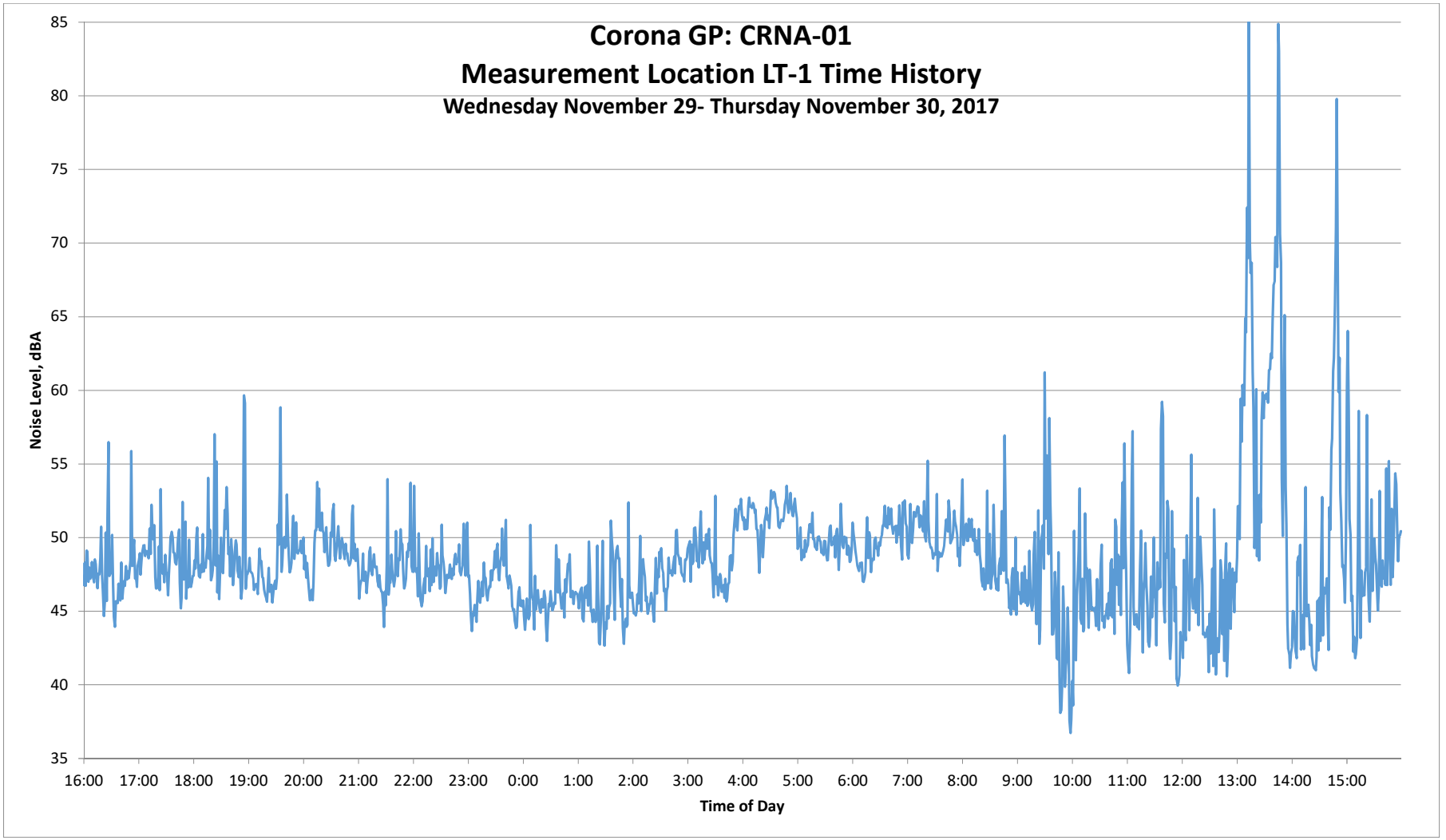
It shall be unlawful for any person to create, maintain or cause any ground vibration which is perceptible without instruments at any point on any affected property adjoining the property on which the vibration source is located. For the purposes of this section, the perception threshold shall be presumed to be more than 0.05 inches per second RMS vertical velocity.

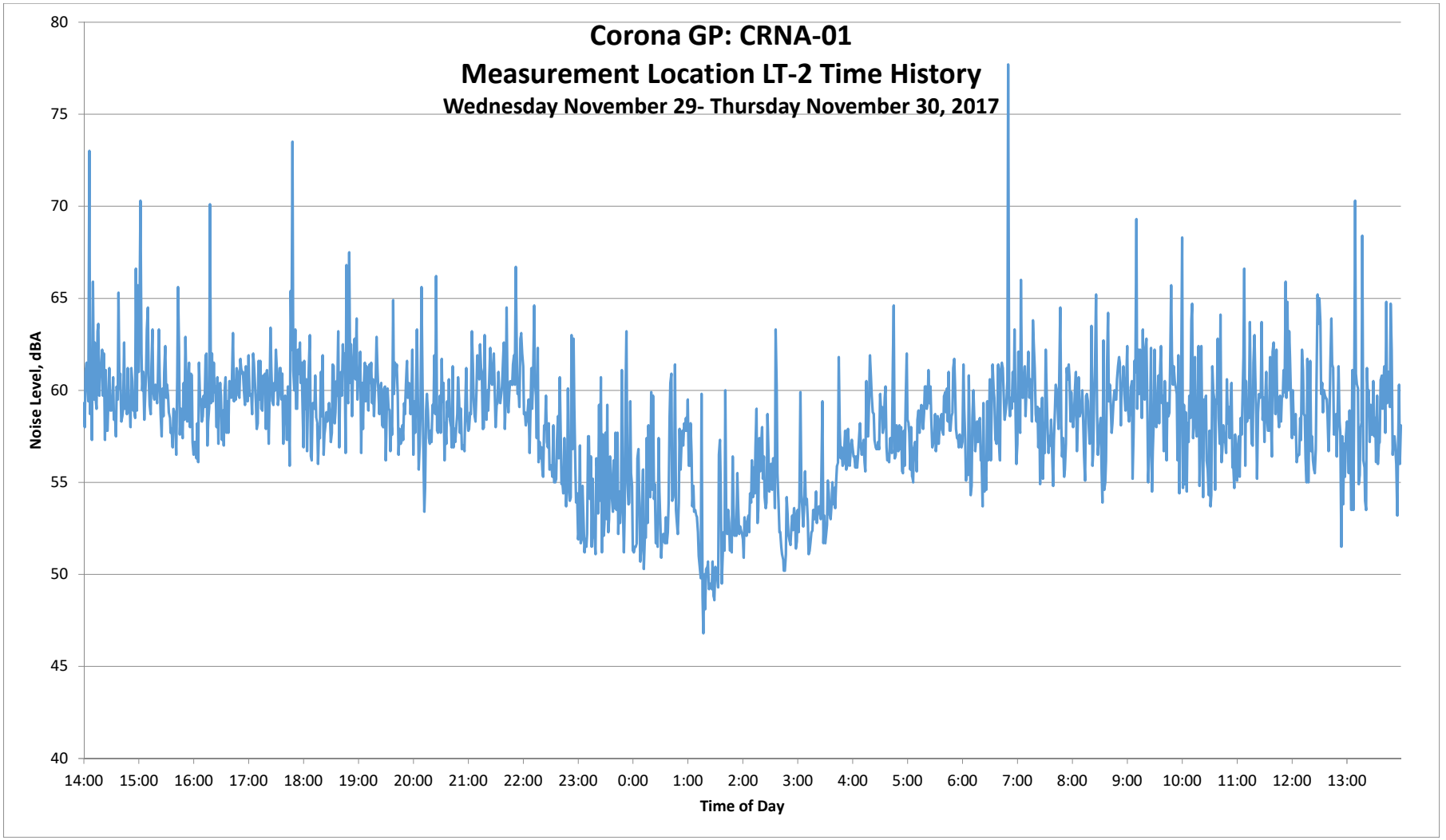
(Prior code § 17.8 4 .050 (Ord. 2161 § 1 (part), 1993.)

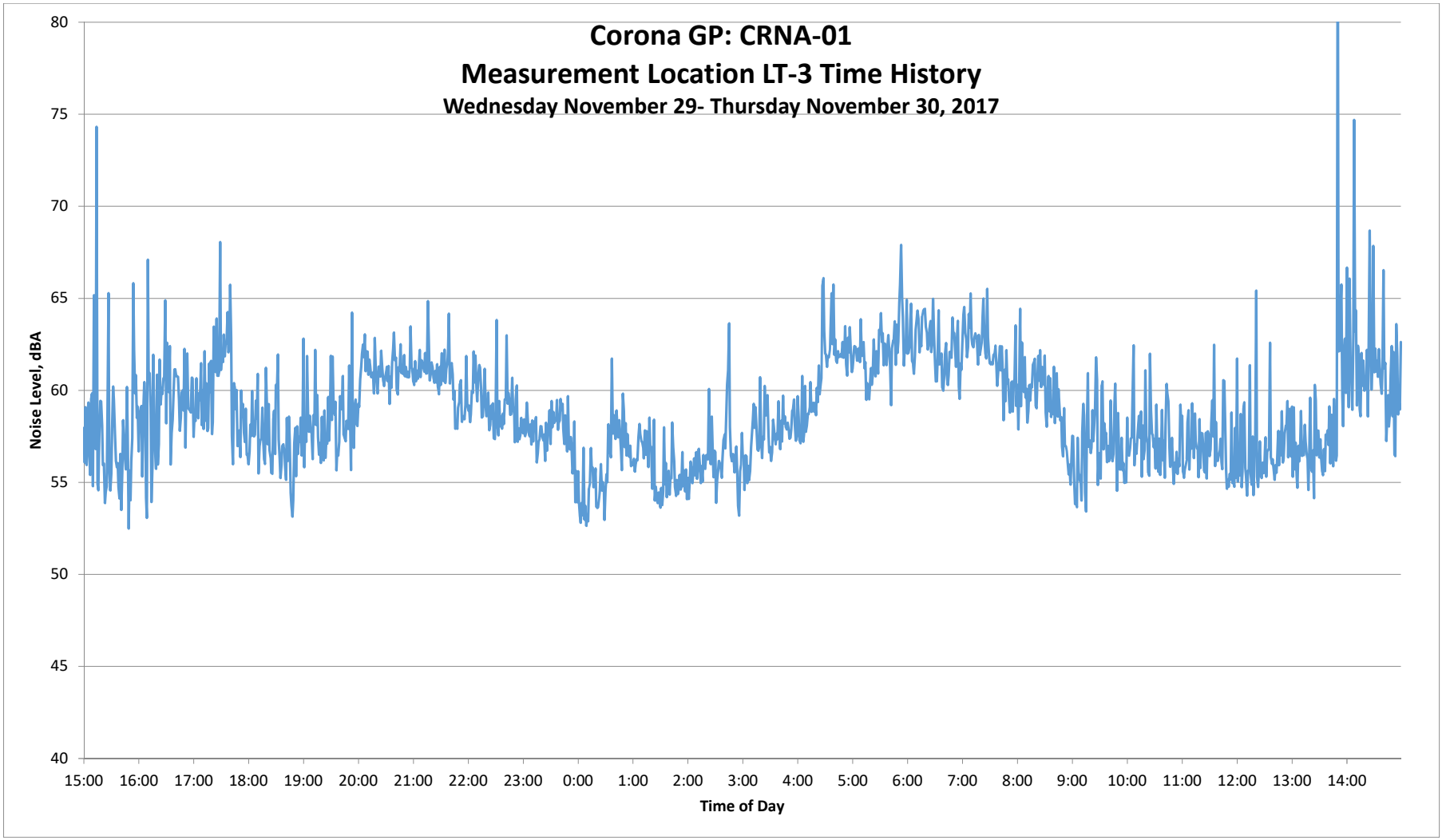
17.24.210 Multiple dwellings in proximity to a state freeway.

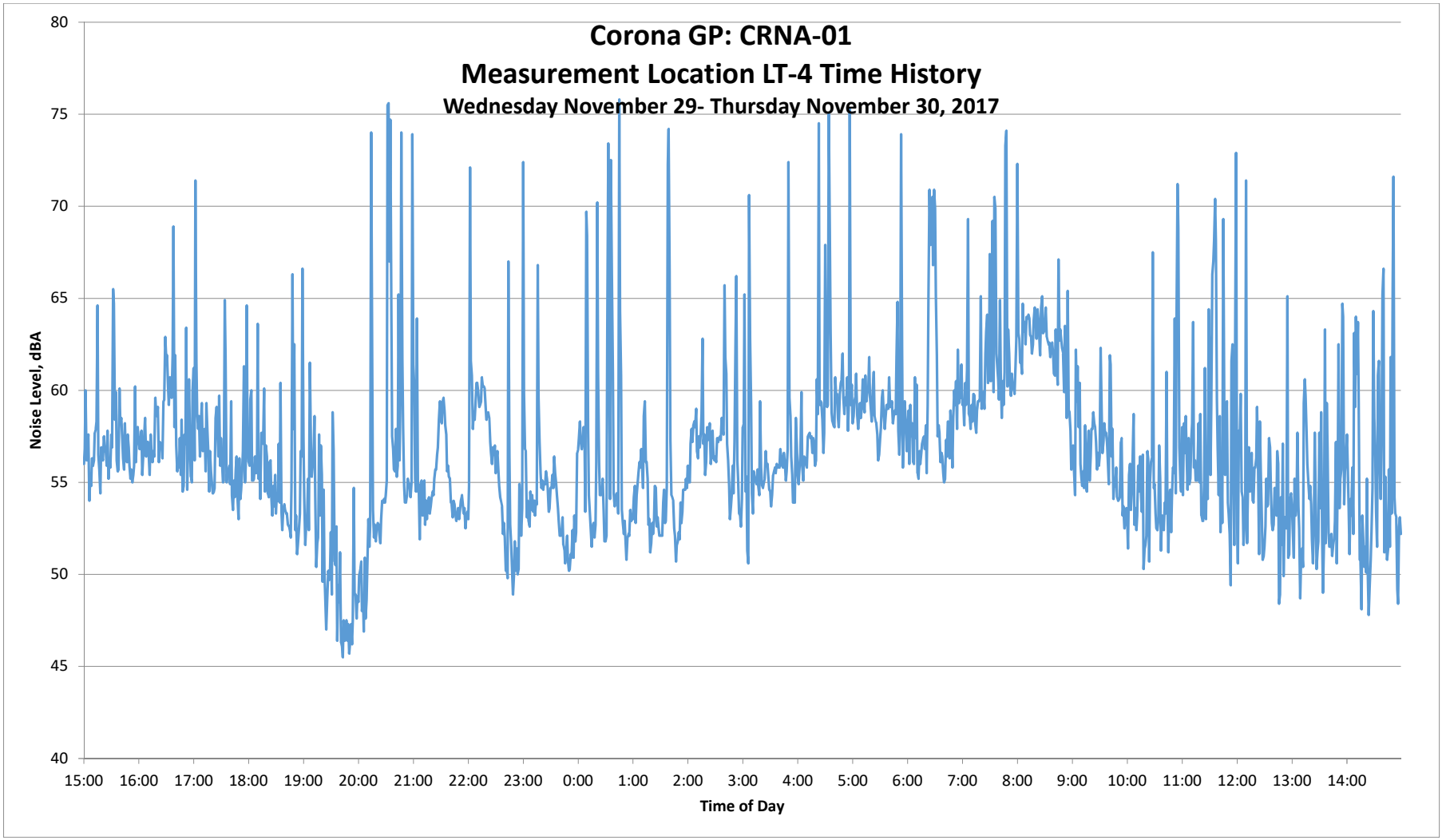
All multiple dwellings which are proposed to be erected or constructed within 200 feet of a proposed or existing freeway right-of-way shall be shielded by a wall or a combination of a wall and earth berm. The composition, extent and nature of the wall or beret and wall shall be sufficient to muffle **noise** caused by motor vehicles traveling on the existing or proposed freeway, which wall or beret and wall shall be approved by the city's principal planning and building official. The height of the wall or beret and wall shall be sufficient to intersect a line drawn from a point ten feet above grade at any point along the lane of the proposed or existing freeway nearest to the proposed dwelling to the top of any window in the proposed dwelling. (`78 Code, § 17.24.210.)

AMBIENT NOISE MONITORING RESULTS


Corona GP: CRNA-01
Measurement Location LT-1 Time History
Wednesday November 29- Thursday November 30, 2017
Noise Level, dBA
85
80
75
70
65
60
55
50
45
40
35
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
Time of Day


Corona GP: CRNA-01
Measurement Location LT-2 Time History
Wednesday November 29- Thursday November 30, 2017
Noise Level, dBA
80
75
70
65
60
55
50
45
40
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
Time of Day


Corona GP: CRNA-01
Measurement Location LT-3 Time History
Wednesday November 29- Thursday November 30, 2017
Noise Level, dBA
80
75
70
65
60
55
50
45
40
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
Time of Day


Corona GP: CRNA-01
Measurement Location LT-4 Time History
Wednesday November 29- Thursday November 30, 2017
Noise Level, dBA
80
75
70
65
60
55
50
45
40
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
Time of Day

TRAFFIC NOISE INCREASE CALCULATIONS

Traffic Noise Calculator: FHWA 77-108 **Corona General Plan: CRNA-01 Existing**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																		
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
22244	81.0	84.6	85.1	505	1089	2345	RIVERSIDE FWY		116319	65	0	92.2%	1.8%	5.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22247	81.9	85.5	85.9	575	1240	2671	RIVERSIDE FWY		133925	65	0	91.0%	2.1%	6.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22248	81.6	85.3	85.7	556	1199	2583	RIVERSIDE FWY		125461	65	0	90.7%	2.1%	7.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22257	81.6	85.3	85.7	556	1199	2583	RIVERSIDE FWY		125461	65	0	90.7%	2.1%	7.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22260	81.3	85.0	85.4	532	1145	2467	RIVERSIDE FWY		126453	65	0	92.4%	1.8%	5.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22262	81.3	85.0	85.4	532	1145	2467	RIVERSIDE FWY		126453	65	0	92.4%	1.8%	5.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22271	82.1	85.7	86.2	597	1285	2769	RIVERSIDE FWY		142574	65	0	91.2%	2.0%	6.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22275	81.1	84.7	85.1	511	1101	2372	RIVERSIDE FWY		118155	65	0	92.2%	1.8%	6.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22290	82.0	85.6	86.1	588	1267	2729	RIVERSIDE FWY		138244	65	0	91.0%	2.1%	6.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22292	81.4	85.0	85.4	533	1149	2475	RIVERSIDE FWY		126949	65	0	92.4%	1.8%	5.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22293	81.3	84.9	85.3	526	1134	2443	RIVERSIDE FWY		123789	65	0	92.3%	1.8%	5.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22295	82.1	85.7	86.2	600	1292	2783	RIVERSIDE FWY		143033	65	0	91.1%	2.1%	6.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22296	81.7	85.3	85.7	559	1205	2596	RIVERSIDE FWY		138787	65	0	92.7%	1.7%	5.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22302	82.1	85.7	86.1	593	1277	2751	RIVERSIDE FWY		139619	65	0	91.0%	2.1%	6.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22305	81.5	85.1	85.5	543	1171	2522	RIVERSIDE FWY		131944	65	0	92.6%	1.7%	5.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22309	82.3	85.9	86.4	618	1332	2869	RIVERSIDE FWY		151638	65	0	91.4%	2.0%	6.6%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22310	82.2	85.8	86.2	603	1299	2799	RIVERSIDE FWY		145166	65	0	91.3%	2.0%	6.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22314	81.7	85.3	85.8	564	1215	2617	RIVERSIDE FWY		136951	65	0	92.2%	1.9%	5.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22317	82.5	86.1	86.5	630	1357	2924	RIVERSIDE FWY		153939	65	0	91.1%	2.2%	6.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22327	79.2	82.8	83.2	381	820	1768	RIVERSIDE FWY		73689	65	0	91.6%	1.9%	6.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22336	81.2	84.8	85.3	522	1124	2422	RIVERSIDE FWY		123739	65	0	92.5%	1.8%	5.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22341	78.4	82.0	82.4	336	724	1560	ONTARIO FWY		70184	65	0	93.8%	1.8%	4.5%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22343	81.0	84.6	85.1	506	1090	2349	RIVERSIDE FWY		120985	65	0	92.9%	1.8%	5.3%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22346	81.4	85.1	85.5	539	1162	2504	RIVERSIDE FWY		129008	65	0	91.8%	2.0%	6.2%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22348	81.3	84.9	85.3	525	1132	2438	RIVERSIDE FWY		130180	65	0	93.3%	1.7%	5.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22353	79.7	83.3	83.7	410	884	1905	TEMECULA VALLEY FWY		84642	65	0	91.0%	2.3%	6.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22354	79.4	83.0	83.5	397	854	1840	TEMECULA VALLEY FWY		77683	65	0	90.2%	2.5%	7.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22386	79.5	83.1	83.6	401	864	1862	TEMECULA VALLEY FWY		80743	65	0	90.7%	2.4%	6.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22392	71.4	75.0	75.5	116	250	538			15479	55	0	88.1%	2.8%	9.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22393	68.2	71.8	72.2	70	152	327			12577	55	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22400	80.7	84.4	84.8	485	1044	2249	TEMECULA VALLEY FWY		107477	65	0	92.4%	2.0%	5.6%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
22402	73.1	76.7	77.2	150	323	697			28055	55	0	92.1%	2.0%	5.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22403	79.0	82.6	83.1	371	800	1724	ONTARIO FWY		77942	65	0	92.5%	2.0%	5.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22422	75.9	79.5	80.0	232	499	1075	ONTARIO FWY		39376	65	0	93.0%	2.0%	5.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22423	58.5	62.1	62.5	16	34	74			7184	25	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22444	77.3	80.9	81.3	285	613	1321	ONTARIO FWY		55536	65	0	93.6%	1.9%	4.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22477	79.8	83.4	83.9	421	907	1954	TEMECULA VALLEY FWY		90250	65	0	91.6%	2.2%	6.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22488	79.7	83.3	83.8	415	894	1925	TEMECULA VALLEY FWY		86768	65	0	91.2%	2.2%	6.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22507	79.9	83.6	84.0	428	923	1988	TEMECULA VALLEY FWY		92792	65	0	91.7%	2.1%	6.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22559	79.8	83.4	83.8	418	900	1939	ONTARIO FWY		84964	65	0	90.9%	2.3%	6.8%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22575	79.5	83.1	83.5	399	860	1853	RIVERSIDE FWY		80872	65	0	92.0%	1.9%	6.1%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22630	79.6	83.2	83.7	408	879	1893	TEMECULA VALLEY FWY		83443	65	0	90.9%	2.3%	6.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22723	76.5	80.1	80.6	254	547	1179	ONTARIO FWY		46560	65	0	93.5%	1.9%	4.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22724	71.8	75.4	75.8	122	263	568			23093	55	0	94.2%	1.4%	4.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
22759	80.5	84.1	84.6	468	1008	2172	RIVERSIDE FWY		108261	65	0	93.1%	1.6%	5.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22846	80.0	83.6	84.1	432	932	2007	TEMECULA VALLEY FWY		94477	65	0	91.7%	2.1%	6.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22857	79.9	83.5	84.0	426	917	1977	TEMECULA VALLEY FWY		92337	65	0	91.7%	2.1%	6.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22866	80.1	83.8	84.2	442	952	2050	TEMECULA VALLEY FWY		96213	65	0	91.8%	2.1%	6.1%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22873	80.1	83.7	84.1	438	943	2032	TEMECULA VALLEY FWY		97855	65	0	92.1%	2.1%	5.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22889	79.8	83.4	83.9	419	903	1946	TEMECULA VALLEY FWY		88932	65	0	91.4%	2.2%	6.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22905	79.4	83.1	83.5	397	855	1842	RIVERSIDE FWY		85641	65	0	92.6%	1.8%	5.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22934	80.1	83.7	84.2	440	947	2040	TEMECULA VALLEY FWY		98179	65	0	92.0%	2.1%	5.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22939	80.1	83.7	84.2	439	947	2040	RIVERSIDE FWY		98505	65	0	93.1%	1.8%	5.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22982	79.8	83.4	83.8	419	902	1943	TEMECULA VALLEY FWY		89342	65	0	91.6%	2.2%	6.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23012	80.1	83.8	84.2	442	952	2051	TEMECULA VALLEY FWY		97077	65	0	92.0%	2.1%	5.9%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23019	79.7	83.3	83.8	414	893	1923	TEMECULA VALLEY FWY		86349	65	0	91.2%	2.3%	6.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23065	79.8	83.4	83.8	417	897	1933	TEMECULA VALLEY FWY		87218	65	0	91.2%	2.3%	6.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23079	79.7	83.3	83.8	414	891	1920	RIVERSIDE FWY		92814	65	0	92.9%	1.7%	5.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23082	79.5	83.1	83.6	402	867	1867	RIVERSIDE FWY		85168	65	0	92.9%	1.7%	5.4%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
23086	79.7	83.3	83.7	411	885	1907	TEMECULA VALLEY FWY		83801	65	0	90.8%	2.4%	6.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23101	79.7	83.3	83.8	415	893	1924	TEMECULA VALLEY FWY		85422	65	0	90.9%	2.3%	6.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23104	80.0	83.7	84.1	435	937	2019	TEMECULA VALLEY FWY		95880	65	0	91.9%	2.1%	6.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23126	79.9	83.6	84.0	429	924	1990	TEMECULA VALLEY FWY		92009	65	0	91.4%	2.2%	6.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23132	79.9	83.5	83.9	424	914	1969	TEMECULA VALLEY FWY		91096	65	0	91.6%	2.2%	6.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23192	79.9	83.5	84.0	427	920	1982	TEMECULA VALLEY FWY		90188	65	0	91.5%	2.2%	6.3%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23223	79.6	83.2	83.6	406	875	1886	TEMECULA VALLEY FWY		81799	65	0	90.6%	2.4%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23254	68.9	72.5	73.0	79	170	367			15073	55	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
23255	67.4	71.0	71.5	63	135	292			10780	55	0	97.0%	1.2%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
23309	80.5	84.1	84.5	463	998	2150	TEMECULA VALLEY FWY		105998	65	0	92.4%	2.0%	5.6%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23344	79.8	83.4	83.9	420	905	1949	TEMECULA VALLEY FWY		88802	65	0	91.3%	2.2%	6.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32

23345	79.6	83.2	83.6	403	869	1873	TEMECULA VALLEY FWY		80513	65	0	90.5%	2.4%	7.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32				
25723	81.7	85.3	85.7	557	1200	2584	RIVERSIDE FWY		137600	65	0	92.1%	1.9%	5.9%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44				

25725	81.8	85.4	85.9	571	1231	2652	RIVERSIDE FWY	137324	65	0	91.7%	2.1%	6.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
26192	78.1	81.7	82.2	323	696	1499	ONTARIO FWY	65258	65	0	93.5%	1.7%	4.7%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
26194	78.1	81.7	82.2	324	698	1505	ONTARIO FWY	65567	65	0	93.5%	1.8%	4.7%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
26195	78.4	82.1	82.5	340	733	1579	ONTARIO FWY	69653	65	0	93.8%	1.7%	4.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
66495	69.8	73.4	73.9	90	195	419		14648	55	0	94.2%	1.3%	4.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
85594	79.4	83.0	83.4	394	848	1827	RIVERSIDE FWY	85256	65	0	92.7%	1.8%	5.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
90723	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94290	60.1	63.7	64.1	20	44	94		7421	30	0	96.7%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94293	63.8	67.4	67.9	36	77	167		17113	25	0	94.9%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683336	55.7	59.3	59.7	10	22	48	N BUENA VISTA AVE	2012	35	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94297	61.8	65.4	65.9	27	57	123		8298	30	0	94.5%	2.2%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94299	57.3	60.9	61.3	13	28	61		4330	30	0	97.4%	1.2%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94302	59.4	63.0	63.4	18	39	85		4411	30	0	94.5%	1.7%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94303	60.1	63.7	64.1	20	44	94		4789	30	0	93.7%	2.1%	4.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94304	56.2	59.8	60.2	11	24	52		3160	30	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94306	62.6	66.2	66.7	30	64	139		12019	30	0	96.2%	1.4%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94307	60.7	64.3	64.8	22	48	104		6843	30	0	95.0%	2.0%	3.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94308	64.9	68.5	68.9	42	91	196		8773	30	0	87.3%	4.5%	8.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94315	62.3	65.9	66.3	28	61	132		8741	30	0	94.5%	1.8%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94316	60.2	63.8	64.2	21	44	95		8593	30	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94318	57.3	60.9	61.3	13	28	61		4117	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94326	54.6	58.2	58.7	9	19	41		2410	30	0	97.6%	0.9%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94353	59.4	63.1	63.5	18	40	85		7605	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94356	60.9	64.5	64.9	23	49	106		9446	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94399	50.7	54.3	54.8	5	10	22		1199	30	0	98.8%	0.4%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94465	59.2	62.9	63.3	18	38	83		5843	30	0	96.8%	1.0%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94477	57.3	60.9	61.3	13	29	61		3860	30	0	97.0%	1.0%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94481	62.2	65.8	66.3	28	61	131		9174	30	0	94.9%	1.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94503	60.2	63.8	64.2	21	45	96		7735	30	0	97.0%	1.1%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94515	59.8	63.4	63.8	19	42	90		8128	30	0	97.9%	0.7%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94528	51.9	55.6	56.0	6	13	27		1584	30	0	98.8%	0.4%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94530	59.3	62.9	63.4	18	39	84		8208	30	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94541	57.8	61.4	61.9	14	31	67		4784	30	0	97.6%	0.8%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94542	59.0	62.6	63.1	17	37	80		7084	30	0	98.1%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94556	63.7	67.3	67.8	36	77	165		17289	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94599	57.6	61.2	61.6	14	30	64		4910	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95272	57.8	61.4	61.9	14	31	67		4395	30	0	96.8%	1.2%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95726	59.1	62.7	63.1	17	38	81		5545	30	0	96.6%	1.1%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95727	57.7	61.3	61.8	14	30	65		5518	30	0	98.3%	0.6%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95733	59.4	63.1	63.5	18	40	86		6845	30	0	97.0%	1.4%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95737	53.0	56.6	57.0	7	15	32		1621	30	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95738	59.5	63.1	63.5	18	40	86		8662	30	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95739	63.8	67.4	67.9	36	78	167		16656	30	0	96.7%	1.1%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95740	59.5	63.1	63.6	19	40	86		6025	30	0	96.5%	1.2%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95742	59.2	62.8	63.3	18	38	83		3414	40	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95747	51.0	54.6	55.1	5	11	24		1287	30	0	98.8%	0.4%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95748	57.9	61.5	62.0	15	31	68		5359	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95749	61.2	64.8	65.2	24	52	112		2528	30	0	79.4%	7.1%	13.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95750	58.1	61.7	62.2	15	32	70		3252	30	0	94.1%	2.1%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95761	58.5	62.1	62.6	16	34	74		6025	30	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95769	59.5	63.1	63.6	19	40	87		6827	30	0	97.2%	1.0%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95780	54.4	58.0	58.4	8	18	39		2341	30	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95781	57.1	60.7	61.2	13	28	60		3899	30	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
96184	59.7	63.4	63.8	19	42	90		5660	30	0	95.8%	1.3%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99664	70.4	74.0	74.5	99	214	460	S MAIN ST	31875	45	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
99667	68.2	71.8	72.2	71	152	327	S MAIN ST	21663	45	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99669	55.2	58.8	59.2	10	21	45	W 2ND ST	1146	40	0	95.4%	1.8%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99676	63.2	66.8	67.2	33	70	151	S LINCOLN AVE	14635	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99677	65.7	69.3	69.8	48	104	224	LINCOLN AVE	15705	40	0	97.3%	1.2%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99678	59.6	63.2	63.7	19	41	88	POMONA RD	3406	40	0	96.0%	1.7%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99679	58.5	62.1	62.5	16	34	73	POMONA RD	3406	35	0	96.0%	1.7%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99681	66.7	70.3	70.8	56	122	262	S MAPLE ST	9531	50	0	94.7%	1.9%	3.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99682	66.6	70.2	70.7	55	119	257	S MAPLE ST	9677	50	0	95.3%	1.7%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99810	69.5	73.2	73.6	87	187	403	MC KINLEY ST	30832	45	0	97.9%	1.1%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
99811	69.5	73.2	73.6	87	187	403	MC KINLEY ST	30832	45	0	97.9%	1.1%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
99822	66.3	69.9	70.4	53	114	246	CAJALCO RD	15574	45	0	98.6%	0.5%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99823	65.1	68.7	69.1	44	95	204	CAJALCO RD	11799	45	0	98.6%	0.4%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
100478	69.6	73.2	73.6	87	188	406	GREEN RIVER RD	27234	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
100611	69.1	72.8	73.2	82	176	379	YUMA DR	24860	45	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116322	60.9	64.5	65.0	23	50	107	W GRAND BLVD	7490	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116323	55.5	59.1	59.5	10	22	46	W 6TH ST	4674	25	0	97.9%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116324	60.7	64.3	64.8	22	48	104	W GRAND BLVD	8274	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116325	64.0	67.6	68.0	37	79	171	W 6TH ST	15955	35	0	98.1%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116341	66.3	69.9	70.3	53	113	244	MAGNOLIA AVE	14732	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116342	66.4	70.0	70.4	53	115	247	MAGNOLIA AVE	15375	45	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116343	68.4	72.1	72.5	73	158	340	MAGNOLIA AVE	23969	45	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116362	41.1	44.7	45.2	1	2	5	S MERRILL ST	799	15	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116363	59.7	63.3	63.8	19	41	89	W GRAND BLVD	6277	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116364	38.2	41.8	42.3	1	2	3	S MERRILL ST	434	15	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

116365	59.6	63.2	63.7	19	41	88	W GRAND BLVD	6146	35	0	98.3%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116370	55.2	58.9	59.3	10	21	45	W OLIVE ST	2699	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116371	54.1	57.7	58.1	8	17	37	W OLIVE ST	2069	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116372	58.6	62.2	62.6	16	35	75	N COTA ST	2782	40	0	96.3%	1.6%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116373	63.7	67.3	67.7	35	76	164	RAILROAD ST	6942	40	0	93.2%	3.1%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116374	64.3	68.0	68.4	39	84	181	RAILROAD ST	8346	40	0	93.7%	2.9%	3.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116375	52.9	56.5	56.9	7	15	31	W GRAND BLVD	1537	30	0	97.4%	0.9%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116376	52.9	56.5	56.9	7	14	31	10TH ST	1833	30	0	98.3%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116377	52.8	56.4	56.9	7	14	31	TAYLOR AVE	1575	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116378	53.9	57.5	57.9	8	17	36	W OLIVE ST	1719	35	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116381	52.6	56.2	56.6	6	14	30	TAYLOR AVE	1551	35	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116382	53.6	57.2	57.7	8	16	35	CITRON ST	1661	35	0	98.9%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116383	53.5	57.1	57.6	7	16	34	CITRON ST	1655	35	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116384	61.4	65.0	65.5	25	54	116	S MAIN ST	7965	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116385	57.0	60.6	61.0	13	27	58	S MAIN ST	2734	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116387	67.4	71.0	71.4	62	134	288	W ONTARIO AVE	20113	45	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116388	66.9	70.5	70.9	58	124	268	W ONTARIO AVE	17855	45	0	98.7%	0.6%	0.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116389	64.6	68.2	68.7	41	88	189	EL CERRITO RD	9881	45	0	98.1%	0.7%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116390	66.3	69.9	70.3	53	113	244	EL CERRITO RD	12984	45	0	97.0%	0.9%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116410	57.9	61.5	62.0	15	31	68	S TEMESCAL ST	1343	50	0	95.5%	1.9%	2.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116411	67.1	70.7	71.2	60	129	278	MAGNOLIA AVE	17669	45	0	97.9%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116412	51.2	54.8	55.2	5	11	24	S TEMESCAL ST	2975	15	0	96.7%	1.4%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116413	65.9	69.5	70.0	50	107	232	MAGNOLIA AVE	13370	45	0	98.0%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116414	66.5	70.1	70.6	55	118	253	N LINCOLN AVE	15263	40	0	95.2%	2.0%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116415	65.2	68.8	69.3	45	97	208	RIVER RD	11414	45	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116416	67.7	71.3	71.8	66	141	304	N LINCOLN AVE	20437	40	0	95.4%	1.9%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116422	57.5	61.1	61.6	14	29	64	EL CERRITO RD	2192	45	0	99.1%	0.3%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116423	55.3	58.9	59.3	10	21	45	E CHASE DR	2442	35	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116424	63.2	66.8	67.3	33	71	153	MAGNOLIA AVE	11654	40	0	99.3%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116431	32.4	36.0	36.5	0	1	1	S MERRILL ST	95	15	0	98.9%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116432	54.9	58.6	59.0	9	20	43	W 6TH ST	4531	25	0	98.3%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116435	31.8	35.4	35.8	0	1	1	W 2ND ST	22	15	0	93.9%	2.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683286	68.1	71.7	72.1	70	150	323	LINCOLN AVE	21040	40	0	94.9%	1.9%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116438	55.0	58.6	59.0	9	20	43	MERRILL ST	1346	40	0	97.3%	1.2%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116439	62.3	65.9	66.4	29	62	133	W GRAND BLVD	10929	35	0	98.0%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116440	61.7	65.3	65.7	26	56	121	W GRAND BLVD	9590	35	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116442	47.6	51.2	51.6	3	6	14	W 10TH ST	1526	15	0	97.5%	0.9%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116451	63.6	67.2	67.6	35	75	161	S MAIN ST	12143	40	0	99.0%	0.4%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116452	67.6	71.2	71.7	65	139	300	E ONTARIO AVE	21079	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116453	60.8	64.4	64.9	23	49	106	S MAIN ST	6677	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116454	57.5	61.1	61.6	14	30	64	N COTA ST	2285	40	0	96.9%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116457	63.8	67.4	67.9	36	78	167	RAILROAD ST	7526	40	0	93.8%	2.9%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116458	64.4	68.0	68.5	39	85	183	S MAIN ST	14525	40	0	99.0%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116462	64.8	68.4	68.9	42	91	195	PROMENADE AVE	11551	45	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116464	58.0	61.6	62.1	15	32	69	N COTA ST	2507	40	0	96.5%	1.6%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116465	64.4	68.0	68.5	40	85	183	RIVER RD	9301	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116473	65.9	69.5	70.0	50	107	231	S MAIN ST	19778	40	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116474	57.0	60.6	61.1	13	27	59	E OLIVE ST	3198	35	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116475	60.0	63.6	64.0	20	43	93	E 6TH ST	6121	35	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116493	65.2	68.8	69.2	45	96	207	W GRAND BLVD	16751	35	0	96.2%	1.7%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116494	64.3	67.9	68.3	39	84	180	S MAIN ST	13532	40	0	98.8%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116495	57.6	61.2	61.7	14	30	65	E GRAND BLVD	4238	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676915	67.0	70.6	71.0	59	126	272	E 6TH ST	15287	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116501	65.4	69.0	69.5	46	100	214	E FOOTHILL PKY	14246	40	0	97.3%	0.8%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116505	44.2	47.9	48.3	2	4	8	E 10TH ST	569	15	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116506	64.5	68.1	68.6	40	86	186	S MAIN ST	13808	40	0	98.6%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116516	50.2	53.8	54.2	4	10	21	E CHASE DR	805	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116517	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	E CHASE DR	0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116518	50.2	53.8	54.2	4	10	21	KELLOGG AVE	805	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116520	61.0	64.6	65.1	23	50	109	W PARKRIDGE AVE	3835	45	0	96.6%	1.4%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116521	69.3	72.9	73.3	83	179	387	N MAIN ST	35786	40	0	97.5%	0.9%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116522	56.6	60.2	60.7	12	26	56	E RINCON ST	1901	35	0	94.7%	1.9%	3.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116523	69.6	73.2	73.6	87	187	404	N MAIN ST	37103	40	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116525	62.5	66.1	66.6	29	64	137	E 6TH ST	6164	45	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116529	68.9	72.5	73.0	79	170	367	N MAIN ST	32642	40	0	97.3%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116531	68.0	71.6	72.0	68	147	316	N MAIN ST	26195	40	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116532	63.9	67.5	68.0	37	79	170	E PARKRIDGE AVE	7967	45	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116540	38.5	42.1	42.6	1	2	3	S JOY ST	351	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116545	37.0	40.6	41.0	1	1	3	S JOY ST	258	15	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116546	37.8	41.4	41.9	1	1	3	E GRAND BLVD	216	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116565	55.2	58.8	59.2	10	21	45	GARRETSON AVE	1790	40	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116566	57.7	61.3	61.7	14	30	65	E GRAND BLVD	4696	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116578	46.9	50.5	50.9	3	6	12	GARRETSON AVE	562	30	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116579	58.0	61.6	62.1	15	32	69	KELLOGG AVE	4202	35	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116583	67.4	71.0	71.4	62	134	289	E ONTARIO AVE	18831	45	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116584	64.2	67.9	68.3	38	83	179	GRANT ST	13256	40	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116585	70.5	74.1	74.6	101	217	468	N MAIN ST	39691	40	0	95.9%	1.5%	2.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116587	39.2	42.8	43.3	1	2	4	GARRETSON AVE	442	15	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116601	64.8	68.4	68.8	42	90	193	E GRAND BLVD	12759	35	0	95.1%	1.8%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

116602	70.1	73.7	74.1	94	203	437	N MAIN ST	41436	40	0	97.2%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116605	62.1	65.7	66.1	27	59	128	CRESTA RD	8048	40	0	98.5%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116624	60.5	64.1	64.6	22	47	101	PROMENADE AVE	5527	40	0	98.2%	1.0%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116625	67.4	71.0	71.4	62	134	289	MC KINLEY ST	18944	45	0	97.8%	1.2%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116635	62.5	66.1	66.5	29	63	137	E GRAND BLVD	12317	35	0	98.6%	0.7%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116636	57.9	61.5	62.0	15	31	68	E GRAND BLVD	4912	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116637	60.4	64.0	64.4	21	46	98	FULLERTON AVE	6863	35	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116649	61.4	65.0	65.5	25	54	116	N JOY ST	5873	40	0	97.2%	1.1%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116650	60.4	64.0	64.4	21	46	99	N JOY ST	4784	40	0	97.5%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116652	66.7	70.3	70.8	56	121	261	MAGNOLIA AVE	16221	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116653	48.7	52.3	52.8	4	8	16	GRANT ST	414	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116654	66.5	70.1	70.5	54	117	251	MAGNOLIA AVE	14804	45	0	97.8%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116658	54.6	58.2	58.6	9	19	41	E 6TH ST	3954	25	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116659	66.2	69.9	70.3	52	113	243	E GRAND BLVD	21239	35	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116660	66.9	70.5	71.0	58	125	269	E 6TH ST	19084	40	0	96.7%	1.3%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116662	62.7	66.4	66.8	31	66	142	E PARKRIDGE AVE	6264	45	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116680	64.9	68.5	68.9	42	91	196	MAGNOLIA AVE	16597	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116681	67.2	70.8	71.3	61	131	282	E ONTARIO AVE	19171	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116682	57.4	61.0	61.5	13	29	63	SANTANA WAY	3877	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116690	64.7	68.3	68.7	41	89	192	MAGNOLIA AVE	16035	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116691	65.5	69.1	69.5	46	100	215	E GRAND BLVD	18131	35	0	96.6%	1.3%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116692	45.2	48.8	49.2	2	4	10	E 2ND ST	608	15	0	95.9%	1.6%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116695	62.3	65.9	66.4	29	62	133	N JOY ST	6905	40	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116696	54.9	58.5	58.9	9	20	42	S BUENA VISTA AVE	2524	35	0	99.4%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116697	55.9	59.5	60.0	11	23	50	S BUENA VISTA AVE	3020	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116698	52.7	56.3	56.7	7	14	30	10TH ST	1641	30	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116708	54.4	58.0	58.5	9	18	40	S BUENA VISTA AVE	2330	35	0	99.6%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116709	52.7	56.4	56.8	7	14	31	W OLIVE ST	1245	35	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116712	56.8	60.4	60.8	12	26	57	N BUENA VISTA AVE	2916	35	0	97.8%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116713	64.6	68.2	68.6	41	88	189	RAILROAD ST	7580	40	0	91.8%	3.4%	4.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116717	63.3	66.9	67.3	33	71	154	W 6TH ST	13434	35	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116718	67.5	71.2	71.6	64	138	296	N LINCOLN AVE	19615	40	0	95.4%	1.9%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116719	58.6	62.2	62.7	16	35	75	W RINCON ST	2566	40	0	95.4%	1.9%	2.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116722	54.8	58.4	58.8	9	19	42	CORDOZA ST	2570	35	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116723	54.0	57.6	58.0	8	17	37	CITRON ST	1810	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116724	66.0	69.6	70.1	51	109	235	W FOOTHILL PKY	11416	45	0	96.3%	1.2%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116727	67.0	70.6	71.0	58	126	271	W ONTARIO AVE	18308	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116729	67.9	71.5	71.9	67	145	312	N LINCOLN AVE	20575	40	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116730	66.0	69.6	70.1	51	109	235	RAILROAD ST	7854	40	0	86.7%	5.8%	7.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116731	61.3	64.9	65.4	25	53	114	S LINCOLN AVE	10066	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116732	64.5	68.1	68.6	40	87	187	W 6TH ST	19040	35	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116734	68.9	72.5	73.0	79	169	365	RIVER RD	22307	45	0	96.3%	1.4%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116737	65.9	69.5	69.9	50	107	230	MAGNOLIA AVE	13609	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116738	67.2	70.8	71.2	61	130	281	MC KINLEY ST	15989	45	0	97.0%	1.1%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116752	61.3	64.9	65.3	24	52	113	10TH ST	11236	30	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116756	64.3	67.9	68.3	39	84	180	S LINCOLN AVE	13066	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116758	63.0	66.6	67.1	32	68	148	W 6TH ST	11580	35	0	97.3%	1.2%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116759	64.2	67.8	68.2	38	82	177	S LINCOLN AVE	17516	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116761	65.5	69.1	69.5	47	100	216	S LINCOLN AVE	17274	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116762	65.0	68.6	69.1	43	93	201	S LINCOLN AVE	15587	40	0	98.5%	0.7%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116763	65.7	69.4	69.8	48	104	225	W ONTARIO AVE	14614	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116764	62.3	65.9	66.3	28	61	132	S LINCOLN AVE	6691	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116768	52.3	55.9	56.4	6	13	29	W ONTARIO AVE	2867	25	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116769	62.3	66.0	66.4	29	62	133	VIA PACIFICA	9084	40	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116774	61.1	64.7	65.2	24	51	111	S SMITH AVE	10574	30	0	97.6%	1.0%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116775	61.4	65.0	65.4	25	53	115	BORDER AVE	10336	35	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116776	65.4	69.1	69.5	46	100	215	N SMITH AVE	10466	45	0	96.3%	1.7%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116782	57.9	61.5	61.9	14	31	67	S LINCOLN AVE	2426	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116787	63.9	67.5	68.0	37	79	170	CORYDON ST	10686	40	0	97.3%	1.3%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116788	57.9	61.5	61.9	14	31	67	S LINCOLN AVE	2426	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116790	66.1	69.7	70.1	51	109	236	RAILROAD ST	7854	40	0	86.7%	5.8%	7.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116800	61.6	65.2	65.6	25	55	118	MC KINLEY ST	5598	45	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116804	66.7	70.3	70.7	56	121	260	W 6TH ST	26543	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116807	63.2	66.8	67.2	33	70	151	TEMESCAL CANYON RD	9947	40	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116808	63.4	67.0	67.4	34	72	156	TEMESCAL CANYON RD	11351	40	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116812	63.5	67.1	67.5	34	74	159	N SMITH AVE	8324	40	0	96.1%	1.6%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116813	64.7	68.3	68.8	41	89	192	N SMITH AVE	11323	40	0	96.3%	1.6%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116814	64.5	68.1	68.5	40	86	185	N MAPLE ST	9136	40	0	94.9%	1.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116815	63.0	66.6	67.1	32	69	148	CORYDON ST	8099	40	0	96.7%	1.6%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116818	59.2	62.8	63.3	18	38	83	INDIANA AVE	4391	40	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116822	64.6	68.2	68.6	41	88	189	WEIRICK RD	14371	40	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116824	66.2	69.8	70.2	52	112	241	RAILROAD ST	7694	40	0	85.3%	6.7%	8.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116833	63.2	66.8	67.2	33	70	151	WEIRICK RD	10846	40	0	99.1%	0.3%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116841	70.6	74.2	74.6	102	219	472	MAGNOLIA AVE	37946	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116842	69.7	73.4	73.8	89	193	415	MAGNOLIA AVE	31956	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116844	66.0	69.6	70.0	50	108	233	MAGNOLIA AVE	14351	45	0	98.3%	0.8%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116845	71.5	75.1	75.5	116	251	540	MAGNOLIA AVE	47439	45	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116852	54.5	58.1	58.5	9	18	40	BORDER AVE	2139	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116853	56.3	59.9	60.4	11	25	53	BORDER AVE	3274	35	0	98.9%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

116857	64.6	68.3	68.7	41	88	190	W 6TH ST	14760	35	0	96.6%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116858	58.0	61.6	62.0	15	32	68	POMONA RINCON RD	2919	35	0	95.3%	2.3%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116859	52.4	56.0	56.5	6	13	29	PASEO GRANDE	3098	25	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116862	52.6	56.2	56.7	6	14	30	W ONTARIO AVE	2729	25	0	98.6%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116875	60.1	63.7	64.1	20	44	94	TEMESCAL CANYON RD	5336	40	0	99.1%	0.3%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116879	62.5	66.1	66.6	30	64	137	INDIANA AVE	6737	45	0	98.6%	0.8%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116903	65.5	69.1	69.5	46	100	216	MAGNOLIA AVE	12519	45	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116906	65.2	68.9	69.3	45	97	208	E 6TH ST	11022	45	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116925	49.6	53.2	53.6	4	9	19	PASEO GRANDE	1536	25	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116926	48.0	51.7	52.1	3	7	15	PINECREST DR	2979	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116943	65.4	69.0	69.4	46	99	213	MAGNOLIA AVE	17961	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116964	63.6	67.2	67.6	35	75	162	TEMESCAL CANYON RD	10517	40	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116965	63.1	66.7	67.2	32	70	151	TEMESCAL CANYON RD	9416	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116967	67.3	70.9	71.3	61	132	285	E ONTARIO AVE	19718	45	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116968	50.3	53.9	54.4	5	10	21	KELLOGG AVE	859	35	0	99.3%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116971	51.6	55.2	55.7	6	12	26	PASEO GRANDE	2209	25	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116973	61.4	65.1	65.5	25	54	116	TEMESCAL CANYON RD	6481	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116980	70.0	73.6	74.1	93	201	433	AUTO CENTER DR	9633	45	0	74.2%	9.2%	16.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116982	69.4	73.0	73.4	85	183	393	SERFAS CLUB DR	16037	45	0	90.1%	3.5%	6.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116986	63.2	66.8	67.3	33	71	152	SERFAS CLUB DR	19234	30	0	98.2%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116987	62.6	66.2	66.6	30	64	139	SERFAS CLUB DR	17251	30	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116990	68.5	72.1	72.6	74	160	344	GREEN RIVER RD	21928	45	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116993	61.5	65.1	65.5	25	54	117	SERFAS CLUB DR	7127	40	0	98.7%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117020	61.1	64.7	65.1	24	51	110	E PARKRIDGE AVE	4076	45	0	96.9%	1.6%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117021	64.9	68.5	68.9	42	91	197	E PARKRIDGE AVE	10869	45	0	98.1%	1.0%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117034	60.8	64.4	64.9	23	49	106	FULLERTON AVE	5434	40	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117062	68.5	72.1	72.6	74	160	345	GREEN RIVER RD	21480	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117063	62.8	66.5	66.9	31	67	144	PALISADES DR	4501	50	0	96.5%	1.4%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
117067	61.0	64.6	65.0	23	50	108	RIMPAU AVE	5211	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117081	47.7	51.3	51.7	3	7	14	E CHASE DR	468	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
117082	59.1	62.7	63.1	17	38	81	FULLERTON AVE	4603	40	0	99.5%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117083	68.5	72.1	72.5	74	159	343	GREEN RIVER RD	21419	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117129	68.6	72.2	72.6	75	161	347	E ONTARIO AVE	25285	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117130	67.7	71.3	71.7	65	141	303	E ONTARIO AVE	21008	45	0	98.5%	0.7%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117211	69.8	73.4	73.9	91	195	421	GREEN RIVER RD	29194	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117225	67.5	71.1	71.5	63	136	294	E ONTARIO AVE	20327	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117226	60.6	64.2	64.6	22	47	102	FULLERTON AVE	6227	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117304	67.2	70.9	71.3	61	131	283	MAGNOLIA AVE	26900	40	0	98.8%	0.5%	0.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117361	61.8	65.4	65.9	27	57	123	RIMPAU AVE	6322	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117425	60.4	64.0	64.5	21	46	99	INDIAN TRUCK TRAIL	4594	40	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
117442	62.3	65.9	66.4	29	62	133	RIMPAU AVE	9392	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117443	62.5	66.1	66.5	29	63	136	RIMPAU AVE	7320	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117452	58.0	61.6	62.0	15	32	68	INDIAN TRUCK TRAIL	2704	40	0	97.5%	0.9%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
123990	66.3	69.9	70.3	53	113	244	PROMENADE AVE	16262	45	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124373	66.6	70.2	70.6	55	119	256	RAILROAD ST	5019	40	0	73.3%	10.1%	16.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124375	66.6	70.2	70.6	55	119	256	RAILROAD ST	5019	40	0	73.3%	10.1%	16.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124378	62.6	66.2	66.6	30	64	139	LINCOLN AVE	6276	45	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124379	57.0	60.6	61.0	13	27	58	S MAIN ST	2734	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124381	53.0	56.6	57.1	7	15	32	SANTANA WAY	1443	35	0	98.6%	0.8%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124382	51.5	55.1	55.5	5	12	25	SANTANA WAY	817	40	0	99.6%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124749	68.2	71.8	72.2	71	152	327	S MAIN ST	21663	45	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124750	66.7	70.3	70.7	56	121	260	S MAIN ST	16153	45	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124868	60.9	64.5	65.0	23	50	107	E HARRISON ST	6694	35	0	96.7%	1.5%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124870	60.9	64.5	65.0	23	50	107	E HARRISON ST	6131	35	0	96.1%	1.7%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128240	69.2	72.8	73.2	82	177	382	MC KINLEY ST	26156	45	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
128244	60.5	64.1	64.6	22	47	101		6813	30	0	95.6%	1.6%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128250	58.2	61.8	62.3	15	33	71		4178	30	0	95.7%	1.8%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128254	60.4	64.0	64.4	21	46	98		5159	30	0	93.9%	1.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
128260	60.2	63.8	64.3	21	45	96		7438	30	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128270	67.1	70.7	71.1	59	128	275	GREEN RIVER RD	19399	40	0	96.6%	1.2%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
128272	60.1	63.7	64.1	20	44	94		9195	30	0	98.1%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128277	62.7	66.3	66.8	30	65	141		10059	30	0	94.8%	1.7%	3.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131099	50.3	53.9	54.3	4	10	21	POMONA RD	395	35	0	93.4%	2.7%	3.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131101	67.3	70.9	71.3	61	132	284	MAGNOLIA AVE	24087	40	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131102	53.3	56.9	57.4	7	15	33	LEESON LN	2577	15	0	93.4%	2.3%	4.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131103	48.8	52.4	52.9	4	8	17	LEESON LN	2387	15	0	97.8%	1.0%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131104	62.6	66.2	66.6	30	64	139	PROMENADE AVE	7308	45	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131105	63.5	67.1	67.5	34	74	159	FULLERTON AVE	11704	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131106	59.8	63.4	63.8	19	42	90	FULLERTON AVE	5219	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131107	51.5	55.1	55.6	5	12	25	E CHASE DR	1191	35	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131111	66.2	69.8	70.2	52	112	240	KNABE RD	11023	50	0	98.1%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131114	63.2	66.8	67.3	33	71	152	CAJALCO RD	11071	35	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131253	66.1	69.7	70.1	51	110	236	DE PALMA RD	10107	50	0	97.4%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
133261	48.7	52.3	52.8	4	8	16	INDIANA AVE	415	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141438	66.4	70.1	70.5	54	116	250	W FOOTHILL PKY	13193	45	0	96.8%	1.0%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141439	67.0	70.6	71.1	59	127	273	E FOOTHILL PKY	15889	45	0	97.4%	0.8%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141440	67.0	70.6	71.1	59	127	273	E FOOTHILL PKY	15889	45	0	97.4%	0.8%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141441	65.4	69.0	69.5	46	100	214	E FOOTHILL PKY	14246	40	0	97.3%	0.8%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141442	66.4	70.1	70.5	54	116	250	W FOOTHILL PKY	13193	45	0	96.8%	1.0%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

141443	63.3	67.0	67.4	33	72	155	S MAIN ST	11911	40	0	99.3%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141448	25.7	29.3	29.8	0	0	0	GARRETSON AVE	37	15	0	99.9%	0.1%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141450	53.9	57.5	57.9	8	17	36	SANTANA WAY	1811	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141451	53.4	57.0	57.4	7	16	34	TABER ST	1151	40	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141452	56.2	59.8	60.3	11	24	52	RIMPAU AVE	2332	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141453	60.5	64.1	64.6	22	47	101	FULLERTON AVE	4628	45	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141456	64.3	67.9	68.3	39	84	180	LINCOLN AVE	9511	45	0	98.3%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141459	52.2	55.8	56.2	6	13	28	MOUNTAIN GATE DR	953	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141460	43.1	46.7	47.1	1	3	7	SANTANA WAY	181	35	0	99.9%	0.1%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141461	51.5	55.1	55.6	5	12	25	TABER ST	835	40	0	99.6%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141469	55.5	59.1	59.5	10	22	46	W 8TH ST	1510	40	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141470	53.0	56.7	57.1	7	15	32	W 8TH ST	1078	40	0	98.9%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141471	54.6	58.2	58.6	9	19	40	W 8TH ST	1360	40	0	98.2%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141472	55.3	58.9	59.4	10	21	45	W 8TH ST	1651	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141473	59.4	63.0	63.4	18	39	85	E 8TH ST	3628	40	0	97.2%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141474	57.8	61.4	61.9	14	31	67	E 8TH ST	2940	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141475	60.8	64.4	64.8	23	49	105	S LINCOLN AVE	9432	35	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141476	56.9	60.5	61.0	12	27	58	S BUENA VISTA AVE	3584	35	0	98.8%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141477	60.5	64.1	64.5	22	47	100	W GRAND BLVD	7032	35	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141478	39.6	43.2	43.6	1	2	4	S MERRILL ST	491	15	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141479	37.5	41.1	41.5	1	1	3	S JOY ST	203	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146162	66.2	69.8	70.3	52	112	242	RIVER RD	13270	45	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146170	61.5	65.1	65.6	25	55	118	FULLERTON AVE	6570	40	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146171	58.1	61.7	62.2	15	32	70	KELLOGG AVE	4793	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146172	41.4	45.0	45.5	1	2	5	FORD ST	618	15	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146180	63.9	67.5	67.9	36	78	168	E PARKRIDGE AVE	8110	45	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146183	69.0	72.6	73.1	80	173	372	N MAIN ST	33391	40	0	97.3%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146541	70.7	74.3	74.7	103	222	478	AUTO CENTER DR	13481	45	0	80.0%	7.1%	12.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146542	52.9	56.5	56.9	7	14	31	WARDLOW RD	2621	15	0	94.3%	2.0%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1633435	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
1656386	66.9	70.5	70.9	58	124	267	HIDDEN VALLEY PKY	14800	45	0	96.6%	1.6%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1656388	64.6	68.2	68.7	41	88	190	CAJALCO RD	10802	45	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657463	69.0	72.6	73.1	80	173	372	MC KINLEY ST	25534	45	0	97.2%	1.2%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657464	69.2	72.9	73.3	83	179	385	MC KINLEY ST	26462	45	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657465	44.7	48.3	48.7	2	4	9		304	30	0	98.5%	0.9%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1657466	53.1	56.8	57.2	7	15	33		996	30	0	94.0%	1.8%	4.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1658202	81.5	85.2	85.6	548	1181	2544	RIVERSIDE FWY	132628	65	0	91.8%	2.0%	6.1%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
1658207	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2661041	80.0	83.6	84.1	432	932	2007	TEMECULA VALLEY FWY	94477	65	0	91.7%	2.1%	6.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661042	80.1	83.7	84.2	440	947	2040	TEMECULA VALLEY FWY	98179	65	0	92.0%	2.1%	5.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661043	79.9	83.6	84.0	429	924	1990	TEMECULA VALLEY FWY	92009	65	0	91.4%	2.2%	6.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661044	80.0	83.7	84.1	435	937	2019	TEMECULA VALLEY FWY	95880	65	0	91.9%	2.1%	6.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2663865	67.0	70.6	71.1	59	127	273	E ONTARIO AVE	17553	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2663866	65.7	69.3	69.7	48	104	223	CAJALCO RD	12066	45	0	97.6%	0.8%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2663949	70.1	73.7	74.1	94	203	437	N MAIN ST	41436	40	0	97.2%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2665250	69.8	73.4	73.9	91	195	420	RAILROAD ST	7754	45	0	67.9%	11.6%	20.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665251	69.5	73.2	73.6	87	187	403	RAILROAD ST	6553	45	0	63.4%	13.4%	23.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665252	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	RAILROAD ST	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665253	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665254	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665255	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665586	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665918	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	91 EXPRESS LANES	20691	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665920	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683307	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665926	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665928	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665930	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665932	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665934	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	8279	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665936	48.8	52.5	52.9	4	8	17	SR 91 HOV	94	65	0	96.8%	0.9%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665938	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	6913	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665940	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	12610	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2667611	63.3	66.9	67.3	33	71	154		10135	30	0	93.9%	1.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2667612	68.9	72.6	73.0	79	171	367	MAGNOLIA AVE	26474	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668085	68.0	71.6	72.1	69	148	319	E 6TH ST	20905	45	0	97.6%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668086	60.1	63.7	64.1	20	44	94	EL SOBRANTE RD	7115	35	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668088	61.4	65.0	65.5	25	54	116	EL SOBRANTE RD	8737	35	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668089	71.7	75.3	75.7	121	260	560	MAGNOLIA AVE	49058	45	0	97.8%	0.8%	1.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2668096	56.2	59.8	60.2	11	24	52	CIRCLE CITY DR	2980	35	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668101	62.3	65.9	66.3	29	61	132	E GRAND BLVD	11416	35	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668227	45.0	48.6	49.0	2	4	9		328	30	0	98.5%	0.9%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668228	63.4	67.0	67.4	34	73	157		13249	30	0	95.6%	1.6%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668229	62.2	65.8	66.3	28	61	131		9174	30	0	94.9%	1.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668231	33.7	37.3	37.7	0	1	2		24	30	0	98.6%	0.8%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668232	60.2	63.9	64.3	21	45	97		6436	30	0	95.7%	1.6%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668233	67.5	71.1	71.5	63	136	292		15479	30	0	88.1%	2.8%	9.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668234	61.3	64.9	65.3	24	53	113		8463	30	0	95.6%	1.9%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668235	58.4	62.0	62.4	16	34	72		4286	30	0	95.6%	1.9%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2668236	60.1	63.8	64.2	21	44	95		4975	30	0	94.0%	1.9%	4.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668237	63.8	67.4	67.9	36	77	167		17113	25	0	94.9%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668238	57.3	60.9	61.3	13	28	61		4330	30	0	97.4%	1.2%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668239	61.8	65.4	65.9	27	57	123		8298	30	0	94.5%	2.2%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668242	63.3	66.9	67.4	33	72	155		14998	30	0	96.6%	1.2%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668243	60.4	64.0	64.5	21	46	99		7561	30	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668244	62.6	66.2	66.7	30	64	139		12019	30	0	96.2%	1.4%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668245	59.2	62.8	63.3	18	38	83		3414	40	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668246	61.1	64.7	65.1	24	51	110		6471	30	0	94.1%	2.1%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668247	60.7	64.3	64.8	22	48	104		6843	30	0	95.0%	2.0%	3.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668248	64.0	67.6	68.1	37	80	172		5006	30	0	80.2%	6.8%	13.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668249	64.9	68.5	68.9	42	91	196		8773	30	0	87.3%	4.5%	8.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668250	58.0	61.7	62.1	15	32	69		3220	30	0	94.1%	2.1%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668251	60.8	64.4	64.9	23	49	105		2479	30	0	81.0%	6.5%	12.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668253	82.5	86.1	86.5	630	1357	2924	RIVERSIDE FWY	153939	65	0	91.1%	2.2%	6.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2668254	81.7	85.3	85.8	564	1215	2617	RIVERSIDE FWY	136951	65	0	92.2%	1.9%	5.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2668255	62.7	66.3	66.8	30	65	141		10059	30	0	94.8%	1.7%	3.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668256	60.1	63.7	64.1	20	44	94		9195	30	0	98.1%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669290	57.6	61.2	61.6	14	30	64		4910	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669292	62.5	66.1	66.5	29	63	136	TEMESCAL CANYON RD	7741	40	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669293	58.5	62.1	62.5	16	34	74	KNABE RD	3459	40	0	98.6%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669294	59.9	63.5	64.0	20	43	92	TEMESCAL CANYON RD	5393	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669297	59.8	63.4	63.8	19	42	90		8128	30	0	97.9%	0.7%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669298	57.8	61.4	61.9	14	31	67		4784	30	0	97.6%	0.8%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669299	64.2	67.9	68.3	38	83	179	TEMESCAL CANYON RD	13256	40	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669300	59.4	63.1	63.5	18	40	85		7605	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669301	59.5	63.1	63.6	19	40	87		6827	30	0	97.2%	1.0%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669302	60.9	64.5	64.9	23	49	106		9446	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669303	60.9	64.5	64.9	23	49	106		9446	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669304	60.2	63.8	64.2	21	45	96		7735	30	0	97.0%	1.1%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669305	59.5	63.1	63.6	19	40	86		6025	30	0	96.5%	1.2%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669306	63.7	67.3	67.8	36	77	165		17289	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669307	63.7	67.3	67.8	36	77	165		17289	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669308	80.7	84.4	84.8	485	1044	2249	TEMECULA VALLEY FWY	107477	65	0	92.4%	2.0%	5.6%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
2669309	68.9	72.5	73.0	79	170	367		15073	55	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669310	78.4	82.1	82.5	340	733	1579	ONTARIO FWY	69653	65	0	93.8%	1.7%	4.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2669311	57.4	61.0	61.5	14	29	63		4617	30	0	97.6%	1.1%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671793	79.7	83.3	83.8	413	890	1918	RIVERSIDE FWY	93768	65	0	93.1%	1.8%	5.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2671794	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	12610	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671795	80.0	83.6	84.1	433	933	2010	RIVERSIDE FWY	94816	65	0	92.8%	1.8%	5.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2671796	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	6913	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671799	81.6	85.3	85.7	556	1199	2583	RIVERSIDE FWY	125461	65	0	90.7%	2.1%	7.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2683313	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2671801	81.3	85.0	85.4	532	1145	2467	RIVERSIDE FWY	126453	65	0	92.4%	1.8%	5.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2683312	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2671803	82.0	85.6	86.1	588	1267	2729	RIVERSIDE FWY	138244	65	0	91.0%	2.1%	6.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2683310	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683309	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683303	75.3	79.0	79.4	212	456	982	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676814	56.7	60.3	60.8	12	26	56		2657	40	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676813	63.1	66.7	67.1	32	69	150	VIA PACIFICA	10858	40	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674856	66.0	69.6	70.0	50	108	234	W 6TH ST	22520	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674857	60.9	64.5	64.9	23	50	107	PLZ DE NOCHE	8579	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674858	55.9	59.5	60.0	11	23	50	SAPPHIRE LN	2732	35	0	98.3%	1.0%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674859	57.0	60.6	61.1	13	27	59	VIA DEL RIO	3822	35	0	99.2%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674861	64.4	68.0	68.5	40	85	184	S LINCOLN AVE	15705	35	0	97.3%	1.2%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674862	52.0	55.6	56.0	6	13	27	D ST	1011	35	0	97.6%	1.5%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674863	52.0	55.6	56.0	6	13	27	D ST	1011	35	0	97.6%	1.5%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674864	64.3	67.9	68.3	39	84	180	W 6TH ST	17582	35	0	98.2%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674865	41.3	44.9	45.4	1	2	5	S SHERMAN AVE	112	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674866	58.7	62.3	62.8	16	35	76	S SHERMAN AVE	5858	35	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674867	61.3	64.9	65.3	24	52	113	10TH ST	11236	30	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674868	58.7	62.3	62.8	16	35	76	S SHERMAN AVE	5858	35	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674869	64.3	67.9	68.4	39	84	181	W 6TH ST	17345	35	0	98.1%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674875	61.6	65.2	65.7	26	55	119	W GRAND BLVD	9762	35	0	98.3%	0.8%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674876	54.6	58.2	58.7	9	19	41	W 2ND ST	2317	30	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674877	51.2	54.8	55.3	5	11	24	W 8TH ST	696	40	0	98.8%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674878	52.6	56.2	56.6	6	14	30	S BELLE AVE	1558	30	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674879	60.3	63.9	64.3	21	45	97	W 6TH ST	6695	35	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674880	53.7	57.3	57.7	8	16	35	S BELLE AVE	1810	30	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674882	67.0	70.6	71.0	59	126	272	S MAIN ST	17300	45	0	98.2%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674884	52.4	56.0	56.5	6	13	29	W 8TH ST	934	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674886	44.2	47.8	48.3	2	4	8	W 10TH ST	992	15	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674887	51.7	55.4	55.8	6	12	26	S BELLE AVE	1380	30	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674888	69.7	73.4	73.8	89	193	415	S MAIN ST	28644	45	0	97.0%	1.0%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674890	60.3	63.9	64.3	21	45	97	E 3RD ST	5744	30	0	94.9%	1.7%	3.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674891	65.3	68.9	69.4	45	98	211	E GRAND BLVD	17720	35	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674892	54.9	58.5	58.9	9	20	42	E 3RD ST	4243	15	0	94.7%	1.6%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674893	55.3	59.0	59.4	10	21	46	W RINCON ST	1509	35	0	94.9%	2.3%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2674900	61.5	65.1	65.6	25	54	117	N JOY ST	6354	40	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674902	60.4	64.0	64.4	21	46	99	N JOY ST	4772	40	0	97.5%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674903	56.8	60.4	60.9	12	26	57	E RINCON ST	2049	35	0	95.0%	1.8%	3.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674905	56.8	60.4	60.9	12	26	57	CIRCLE CITY DR	2060	35	0	94.9%	2.0%	3.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674906	58.6	62.2	62.6	16	35	75	RIMPAU AVE	4549	35	0	98.0%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674907	58.3	61.9	62.3	15	33	72	RIMPAU AVE	4188	35	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674908	58.3	61.9	62.3	15	33	72	RIMPAU AVE	4188	35	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674909	63.2	66.9	67.3	33	71	153	RIMPAU AVE	13968	35	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674910	61.5	65.1	65.6	25	54	117	OLD TEMESCAL RD	4566	45	0	97.3%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674911	62.5	66.1	66.5	29	63	136	CALIFORNIA AVE	7773	40	0	97.6%	0.9%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674912	67.9	71.6	72.0	68	146	315	E ONTARIO AVE	21911	45	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674913	59.7	63.3	63.8	19	41	89	CALIFORNIA AVE	4656	40	0	98.6%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674914	60.8	64.4	64.8	23	49	105	CALIFORNIA AVE	4967	45	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674915	57.4	61.0	61.4	13	29	62	CALIFORNIA AVE	6056	30	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674916	69.4	73.0	73.4	84	182	392	E ONTARIO AVE	30076	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674918	64.1	67.7	68.2	38	81	175	TEMESCAL CANYON RD	12966	40	0	98.7%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2675881	63.6	67.2	67.6	35	75	161	MAGNOLIA AVE	11772	40	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2675882	62.3	65.9	66.3	28	61	132	MAGNOLIA AVE	9040	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2675966	64.0	67.6	68.0	37	79	171	MAGNOLIA AVE	13631	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676022	65.0	68.6	69.0	43	93	200	CAJALCO RD	10837	45	0	98.1%	0.6%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676025	54.3	57.9	58.4	8	18	39	BORDER AVE	2023	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676162	52.1	55.7	56.2	6	13	28	W RINCON ST	443	35	0	89.1%	4.5%	6.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676163	60.8	64.4	64.9	23	49	106	S MAIN ST	6653	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676362	66.1	69.7	70.2	51	110	238	E FOOTHILL PKY	12375	45	0	97.0%	0.9%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676363	62.7	66.4	66.8	31	66	142	E CHASE DR	7561	45	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676364	65.0	68.6	69.1	43	94	202	E FOOTHILL PKY	12583	40	0	97.0%	0.9%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676365	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	W CHASE DR	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676815	49.7	53.3	53.8	4	9	19		898	30	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676816	49.8	53.4	53.9	4	9	20		917	30	0	98.2%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676817	34.9	38.5	38.9	0	1	2		30	30	0	98.5%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676818	56.1	59.7	60.1	11	24	51	E GRAND BLVD	3310	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676819	44.3	47.9	48.4	2	4	8	E 10TH ST	574	15	0	96.6%	1.2%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676820	38.9	42.5	43.0	1	2	4		92	30	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676821	58.0	61.6	62.1	15	32	69	E 8TH ST	3006	40	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676822	40.0	43.6	44.1	1	2	4		98	30	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676823	55.6	59.2	59.7	10	22	47	E 6TH ST	4543	25	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676824	47.1	50.8	51.2	3	6	13		619	30	0	99.3%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676825	59.7	63.3	63.7	19	41	89	E 3RD ST	4834	30	0	94.6%	1.7%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676826	51.6	55.2	55.6	6	12	26		983	30	0	96.3%	1.4%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676827	57.1	60.7	61.2	13	28	60	E OLIVE ST	3276	35	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676828	29.9	33.5	34.0	0	0	1		47	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676829	66.5	70.1	70.6	54	117	253	E GRAND BLVD	21913	35	0	96.3%	1.4%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676831	51.7	55.3	55.7	6	12	26	W ONTARIO AVE	2118	25	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676832	56.5	60.1	60.6	12	25	55		3007	35	0	98.1%	1.0%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676833	55.3	58.9	59.3	10	21	45	PASEO GRANDE	4647	25	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676834	59.2	62.8	63.2	18	38	82		5848	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676835	60.3	64.0	64.4	21	46	98		7401	35	0	98.4%	0.8%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676836	52.5	56.1	56.5	6	14	29	W ONTARIO AVE	2528	25	0	98.3%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676837	47.1	50.8	51.2	3	6	13		1562	15	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676838	60.3	63.9	64.3	21	45	97		7270	35	0	98.4%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676839	66.5	70.1	70.6	55	117	253	W 6TH ST	25440	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676842	50.1	53.7	54.2	4	9	20		1377	30	0	99.8%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676843	58.3	61.9	62.3	15	33	71	BORDER AVE	5314	35	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676844	57.6	61.2	61.6	14	30	64		3877	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676845	68.7	72.3	72.8	77	165	356	GREEN RIVER RD	22794	45	0	97.0%	1.0%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676846	68.7	72.3	72.7	76	164	354	GREEN RIVER RD	22732	45	0	97.0%	1.0%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676847	54.1	57.7	58.2	8	18	38		1313	40	0	98.9%	0.4%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676848	58.4	62.1	62.5	16	34	73		6528	30	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676849	53.9	57.5	58.0	8	17	37		2299	30	0	98.1%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676850	47.0	50.6	51.0	3	6	13		1731	15	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676851	68.7	72.3	72.7	76	164	352	GREEN RIVER RD	22831	45	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676852	50.7	54.3	54.8	5	10	22		4484	15	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676855	61.4	65.0	65.4	25	54	115	S LINCOLN AVE	5465	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676856	58.6	62.2	62.7	16	35	75		3940	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676857	58.2	61.8	62.2	15	33	70		3655	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676858	56.5	60.1	60.5	12	25	54		2424	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676859	57.9	61.5	62.0	15	31	68		3402	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676860	48.1	51.7	52.1	3	7	15		550	35	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676861	48.9	52.5	52.9	4	8	17		822	30	0	98.9%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676862	55.2	58.8	59.3	10	21	45		2609	35	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676863	40.7	44.3	44.8	1	2	5		163	30	0	99.9%	0.1%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676864	51.6	55.2	55.6	6	12	26		1668	30	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676865	61.5	65.1	65.5	25	54	117		6602	40	0	98.2%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676866	61.3	64.9	65.4	25	53	114		4688	45	0	98.1%	0.6%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676867	60.8	64.4	64.8	23	49	105		5398	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676868	57.8	61.4	61.8	14	31	66		2395	45	0	99.2%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676869	54.0	57.6	58.0	8	17	37		1422	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676870	60.1	63.8	64.2	21	44	95		4739	40	0	98.1%	0.6%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676871	49.4	53.0	53.4	4	8	18		509	40	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2676872	55.2	58.8	59.2	10	21	44		1849	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676873	58.8	62.4	62.9	17	36	78		4368	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676874	58.9	62.5	62.9	17	36	78	RIMPAU AVE	4316	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676875	54.2	57.8	58.3	8	18	38		2142	35	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676876	59.8	63.4	63.9	19	42	90		6350	35	0	98.4%	0.5%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676877	66.1	69.7	70.2	51	110	238	EL CERRITO RD	13872	45	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676878	62.3	65.9	66.4	29	62	133		7100	40	0	97.4%	0.8%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676879	63.9	67.5	68.0	37	79	170		9869	45	0	99.3%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676880	63.1	66.7	67.1	32	69	149		8118	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676881	60.8	64.4	64.8	23	49	105		4566	45	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676882	62.0	65.6	66.0	27	59	126		6356	45	0	99.4%	0.2%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676883	50.6	54.2	54.6	5	10	22		455	45	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676885	60.4	64.0	64.4	21	46	99		4994	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676886	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676887	43.0	46.6	47.1	1	3	7		832	15	0	98.5%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676888	55.2	58.8	59.2	10	21	44		1610	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676890	51.5	55.1	55.5	5	12	25	SANTANA WAY	817	40	0	99.6%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676892	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	E CHASE DR	0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676894	47.3	51.0	51.4	3	6	13		3339	15	0	99.2%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676895	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676896	68.0	71.6	72.0	68	147	316		19147	45	0	97.0%	1.0%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676897	65.7	69.4	69.8	48	104	225	W ONTARIO AVE	14614	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676898	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676899	55.5	59.1	59.6	10	22	47	W ONTARIO AVE	6585	25	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676900	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676901	51.3	54.9	55.4	5	11	25		956	35	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676902	63.0	66.6	67.0	32	68	147	FULLERTON AVE	10006	40	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676903	60.1	63.7	64.1	20	44	94		3411	45	0	97.7%	0.8%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676904	64.6	68.2	68.6	41	88	189	RIMPAU AVE	17888	35	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676905	56.6	60.3	60.7	12	26	56		2072	40	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676906	42.0	45.6	46.0	1	3	6		181	30	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676907	66.0	69.6	70.1	51	109	235	RIMPAU AVE	23634	35	0	97.7%	0.9%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676908	56.5	60.1	60.6	12	25	55		1629	40	0	95.9%	1.6%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676909	56.3	59.9	60.4	11	25	53		1521	40	0	95.6%	1.8%	2.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676910	68.6	72.2	72.6	75	161	348	E ONTARIO AVE	24792	45	0	98.1%	0.7%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2676913	43.9	47.5	47.9	2	4	8		135	40	0	99.1%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676914	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	GARRETSON AVE	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676916	62.5	66.1	66.6	30	64	137		5378	45	0	96.5%	1.4%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676917	60.4	64.0	64.4	21	46	98	TEMESCAL CANYON RD	3325	50	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676918	63.9	67.5	68.0	37	79	170	DE PALMA RD	5961	50	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676919	64.6	68.2	68.7	41	88	189		8386	50	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676920	48.7	52.3	52.8	4	8	16	INDIANA AVE	415	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676921	69.1	72.7	73.2	81	175	378	MAGNOLIA AVE	27570	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676922	63.3	66.9	67.3	33	71	154	E 6TH ST	7576	45	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676924	63.3	66.9	67.3	33	71	153	E 6TH ST	7161	45	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676926	63.7	67.3	67.8	36	77	165	E 6TH ST	8095	45	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676927	64.8	68.4	68.9	42	90	195	E 6TH ST	10047	45	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676929	63.5	67.1	67.6	35	74	160		9319	40	0	97.2%	1.0%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676930	59.8	63.4	63.9	20	42	91		3250	45	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676931	69.5	73.1	73.5	86	185	399	MC KINLEY ST	25410	45	0	96.3%	1.3%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682117	62.6	66.2	66.6	30	64	139	PROMENADE AVE	7308	45	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676935	64.8	68.4	68.9	42	91	195	PROMENADE AVE	11551	45	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676936	52.7	56.3	56.8	7	14	30		15161	15	0	99.7%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676937	58.0	61.6	62.0	15	32	68	PROMENADE AVE	3384	40	0	98.9%	0.7%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676938	35.8	39.4	39.8	0	1	2		151	15	0	97.9%	1.3%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676939	61.5	65.1	65.5	25	54	117	E PARKRIDGE AVE	4539	45	0	97.0%	1.6%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676940	66.2	69.8	70.2	52	111	239	YUMA DR	13507	45	0	97.2%	1.4%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676941	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676942	65.5	69.1	69.5	46	100	216	YUMA DR	11603	45	0	97.3%	1.4%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676944	65.2	68.8	69.2	44	96	206	YUMA DR	11444	45	0	97.8%	1.2%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676945	57.7	61.3	61.8	14	30	65		1902	45	0	96.8%	1.8%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676946	60.1	63.7	64.2	20	44	95		5811	35	0	96.9%	1.6%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676947	68.2	71.8	72.3	71	152	328	MC KINLEY ST	22252	45	0	97.7%	1.1%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2676949	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676950	57.0	60.6	61.0	13	27	58	N COTA ST	2032	40	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676953	63.4	67.0	67.5	34	73	158	RAILROAD ST	6768	40	0	93.6%	2.9%	3.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676955	61.6	65.2	65.7	26	55	120	N JOY ST	6476	40	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676957	67.4	71.0	71.4	62	134	289	N LINCOLN AVE	18948	40	0	95.4%	1.9%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676958	59.7	63.3	63.7	19	41	88	N COTA ST	3539	40	0	96.2%	1.7%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676959	57.7	61.3	61.7	14	30	65		1692	40	0	93.1%	2.9%	4.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676960	58.4	62.0	62.5	16	34	73	W RINCON ST	2008	40	0	93.2%	2.7%	4.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676961	66.9	70.5	71.0	58	125	270	RIVER RD	15474	45	0	97.1%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676962	57.2	60.8	61.2	13	28	60		2020	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677129	58.5	62.1	62.5	16	34	73	POMONA RD	3406	35	0	96.0%	1.7%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677130	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677171	57.0	60.6	61.0	13	27	58	EL CERRITO RD	1909	45	0	99.1%	0.3%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677172	62.9	66.5	66.9	31	67	145		8541	40	0	97.8%	0.7%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677174	61.3	64.9	65.4	25	53	114		5271	45	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677177	61.3	64.9	65.4	25	53	114		4854	45	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2677184	66.1	69.7	70.1	51	110	237	E FOOTHILL PKY	12375	45	0	97.0%	0.9%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680070	60.7	64.3	64.7	22	48	103	TEMESCAL CANYON RD	5884	40	0	98.7%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680084	40.6	44.2	44.7	1	2	5		411	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680201	68.5	72.1	72.5	74	159	343	GREEN RIVER RD	21419	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680203	69.0	72.6	73.0	79	171	368	GREEN RIVER RD	24749	45	0	97.3%	0.9%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680205	68.5	72.1	72.5	73	158	341	GREEN RIVER RD	21471	45	0	97.0%	1.0%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680207	51.7	55.3	55.7	6	12	26	W ONTARIO AVE	2118	25	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680209	54.1	57.7	58.2	8	18	38		1313	40	0	98.9%	0.4%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680211	48.9	52.5	52.9	4	8	17		2094	15	0	97.5%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680215	52.2	55.9	56.3	6	13	28		1709	30	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680218	48.0	51.6	52.1	3	7	15	PINECREST DR	2939	15	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680220	63.0	66.6	67.0	32	68	147	PALISADES DR	4780	50	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680222	69.8	73.4	73.9	90	195	420	GREEN RIVER RD	29125	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680225	62.8	66.4	66.9	31	67	144	SERFAS CLUB DR	17973	30	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680227	60.9	64.5	65.0	23	50	107	N SMITH AVE	4852	40	0	96.4%	1.8%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680229	50.3	53.9	54.3	4	10	21	POMONA RD	395	35	0	93.4%	2.7%	3.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680231	66.2	69.8	70.2	52	112	241	RAILROAD ST	7694	40	0	85.3%	6.7%	8.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680235	62.0	65.6	66.1	27	59	127	W RINCON ST	5654	40	0	95.6%	1.8%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680237	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680239	58.1	61.7	62.1	15	32	69	POMONA RINCON RD	2957	35	0	95.2%	2.3%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680241	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	WARDLOW RD	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680242	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		733	0	0	95.9%	2.2%	2.0%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2680244	38.3	41.9	42.3	1	2	3		90	30	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680248	63.4	67.0	67.4	34	73	156	CORYDON ST	9109	40	0	97.0%	1.4%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680250	56.7	60.3	60.8	12	26	56		3854	35	0	99.5%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680252	67.9	71.5	71.9	67	145	312		18575	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680254	66.5	70.1	70.5	54	117	251	W 6TH ST	25101	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680256	58.6	62.2	62.7	16	35	75		5243	35	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680258	57.9	61.5	61.9	15	31	67	VIA DEL RIO	4787	35	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680262	54.3	57.9	58.4	8	18	39	BORDER AVE	2023	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680264	65.5	69.1	69.5	47	100	216	S LINCOLN AVE	17274	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680266	63.9	67.5	68.0	37	79	169	VIA PACIFICA	13217	40	0	99.1%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680268	61.3	64.9	65.3	24	52	113	10TH ST	11236	30	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680270	52.2	55.8	56.3	6	13	28	W ONTARIO AVE	2820	25	0	99.0%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680272	54.0	57.6	58.1	8	17	37	BORDER AVE	1876	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680274	57.9	61.5	62.0	15	31	68		3612	40	0	99.6%	0.3%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680276	61.1	64.7	65.2	24	51	111	S SMITH AVE	10574	30	0	97.6%	1.0%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680278	63.0	66.6	67.1	32	69	148	W 6TH ST	12283	35	0	97.7%	1.0%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680280	62.2	65.8	66.2	28	61	130	N SMITH AVE	7102	40	0	97.3%	1.2%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680282	52.0	55.6	56.0	6	13	27	D ST	1011	35	0	97.6%	1.5%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680285	64.9	68.5	69.0	43	92	198	TEMESCAL CANYON RD	16922	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680287	46.8	50.4	50.8	3	6	12		3072	15	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680291	51.3	54.9	55.4	5	11	25		956	35	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682293	58.1	61.7	62.1	15	32	69		3500	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680295	53.5	57.2	57.6	7	16	35		693	45	0	96.7%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682158	67.3	71.0	71.4	62	133	287	KNABE RD	14934	50	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680300	52.7	56.3	56.7	7	14	30		1580	35	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680303	57.9	61.5	61.9	14	31	67	S LINCOLN AVE	2426	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680305	57.7	61.4	61.8	14	31	66		3273	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680307	57.9	61.5	61.9	14	31	67	S LINCOLN AVE	2426	45	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680310	61.8	65.4	65.8	26	57	122	LINCOLN AVE	5035	45	0	97.8%	0.8%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680312	66.1	69.7	70.1	51	110	236	W FOOTHILL PKY	11558	45	0	96.4%	1.1%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680314	50.6	54.2	54.7	5	10	22	10TH ST	1420	30	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680316	53.0	56.7	57.1	7	15	32	W 8TH ST	1078	40	0	98.9%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680318	63.3	66.9	67.3	33	71	154	W 6TH ST	13434	35	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680320	53.2	56.8	57.3	7	15	33	W 2ND ST	1856	30	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680325	52.7	56.3	56.7	7	14	30	10TH ST	1641	30	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680327	64.0	67.7	68.1	37	80	173	S MAIN ST	13371	40	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680329	52.6	56.2	56.6	6	14	30	TAYLOR AVE	1551	35	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680331	55.7	59.3	59.7	10	22	48	CORDOZA ST	3060	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680347	65.0	68.6	69.1	43	93	201	RIVER RD	10677	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680349	57.2	60.8	61.2	13	28	60		2020	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680351	66.8	70.4	70.8	57	122	263	RIVER RD	14755	45	0	97.0%	1.1%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680353	66.5	70.1	70.5	54	117	252	N LINCOLN AVE	15066	40	0	95.1%	2.0%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680358	52.7	56.4	56.8	7	14	31	W OLIVE ST	1245	35	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680360	41.4	45.0	45.4	1	2	5	S MERRILL ST	864	15	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680362	54.3	57.9	58.3	8	18	39	W OLIVE ST	2168	35	0	99.3%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680364	55.1	58.7	59.2	9	20	44	S BUENA VISTA AVE	2684	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680366	52.8	56.4	56.9	7	14	31	TAYLOR AVE	1575	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680368	64.8	68.4	68.9	42	90	195	S MAIN ST	15731	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680370	66.0	69.6	70.0	50	108	233	S MAIN ST	20082	40	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680372	67.7	71.4	71.8	66	142	306	W ONTARIO AVE	22260	45	0	98.8%	0.5%	0.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2680374	66.9	70.5	70.9	58	124	268	W ONTARIO AVE	17855	45	0	98.7%	0.6%	0.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2680378	66.7	70.3	70.7	56	120	259	W FOOTHILL PKY	14132	45	0	97.0%	0.9%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680380	66.6	70.2	70.6	55	119	256	E FOOTHILL PKY	14237	45	0	97.3%	0.8%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680382	50.3	53.9	54.3	5	10	21		1267	30	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680383	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		604	0	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2680384	40.7	44.3	44.8	1	2	5		163	30	0	99.9%	0.1%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680386	62.1	65.7	66.2	28	60	129	MAGNOLIA AVE	8690	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32

2680388	58.5	62.1	62.5	16	34	73		3811	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680391	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	W CHASE DR	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680393	43.9	47.5	47.9	2	4	8	GARRETSON AVE	1143	15	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680395	60.8	64.4	64.8	23	49	105	W GRAND BLVD	7260	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680397	55.3	58.9	59.3	10	21	45	W 6TH ST	4676	25	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680399	38.4	42.0	42.5	1	2	3	S MERRILL ST	383	15	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680401	41.5	45.2	45.6	1	3	5	S MERRILL ST	241	15	0	95.4%	1.8%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680403	50.8	54.4	54.9	5	11	23	S BELLE AVE	1133	30	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680407	49.4	53.0	53.4	4	8	18		437	30	0	94.2%	2.0%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680409	54.3	57.9	58.3	8	18	39		2076	30	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680411	59.7	63.3	63.7	19	41	89	E 3RD ST	4834	30	0	94.6%	1.7%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680413	68.2	71.8	72.2	71	152	327	S MAIN ST	21663	45	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680415	34.9	38.5	38.9	0	1	2		30	30	0	98.5%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680417	51.6	55.2	55.6	6	12	26		983	30	0	96.3%	1.4%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680419	31.8	35.4	35.8	0	1	1	W 2ND ST	22	15	0	93.9%	2.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680421	45.2	48.8	49.2	2	4	10	E 2ND ST	608	15	0	95.9%	1.6%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680423	66.7	70.3	70.7	56	121	260	S MAIN ST	16153	45	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680425	37.5	41.1	41.5	1	1	3	S JOY ST	203	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680427	44.6	48.2	48.7	2	4	9	S JOY ST	691	15	0	97.0%	1.1%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680429	47.6	51.2	51.6	3	6	14	W 10TH ST	2113	15	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680431	64.3	67.9	68.3	39	84	180	S MAIN ST	13532	40	0	98.8%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680434	56.1	59.7	60.1	11	24	51	E GRAND BLVD	3310	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680436	58.7	62.3	62.7	16	35	76	E GRAND BLVD	5689	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680438	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		1427	0	0	96.9%	1.2%	2.0%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2680439	55.4	59.0	59.5	10	21	46	E 6TH ST	4941	25	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680441	63.9	67.5	67.9	36	78	168	RAILROAD ST	7670	40	0	93.9%	2.8%	3.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680443	64.3	67.9	68.3	39	83	179	RAILROAD ST	8345	40	0	93.8%	2.9%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680445	65.4	69.0	69.4	46	99	212	W GRAND BLVD	17325	35	0	96.2%	1.7%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680447	61.8	65.4	65.8	26	57	122	W GRAND BLVD	9612	35	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680449	65.2	68.8	69.3	45	96	207	E PARKRIDGE AVE	11552	45	0	97.9%	1.0%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680451	61.2	64.8	65.3	24	52	112	E HARRISON ST	7133	35	0	96.7%	1.6%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680453	64.3	68.0	68.4	39	84	181	E GRAND BLVD	12043	35	0	95.4%	1.7%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680456	61.9	65.5	65.9	27	58	124	E PARKRIDGE AVE	5504	45	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680458	61.0	64.6	65.0	23	50	108	N JOY ST	5072	40	0	97.0%	1.2%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680460	56.3	59.9	60.3	11	24	52		1539	40	0	95.5%	2.2%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680462	55.4	59.0	59.5	10	21	46	W RINCON ST	1533	35	0	94.9%	2.3%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680464	57.0	60.6	61.0	13	27	58	N COTA ST	2032	40	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680466	60.6	64.2	64.7	22	48	102	E HARRISON ST	5943	35	0	96.3%	1.6%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680471	69.4	73.0	73.5	85	184	396	N MAIN ST	36500	40	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2680477	56.3	59.9	60.3	11	24	52	E GRAND BLVD	3449	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680480	56.7	60.3	60.8	12	26	56	E OLIVE ST	2962	35	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680482	46.9	50.5	50.9	3	6	12	GARRETSON AVE	562	30	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680484	68.2	71.8	72.2	70	151	326	E ONTARIO AVE	24282	45	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2680486	61.8	65.4	65.8	26	57	123		6175	45	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680488	43.5	47.1	47.5	2	3	7		1117	15	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680490	55.2	58.8	59.2	10	21	44		1610	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680492	60.4	64.0	64.4	21	46	99		4994	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680494	61.0	64.7	65.1	24	51	109		4291	45	0	97.9%	0.7%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680496	58.8	62.4	62.8	17	36	77		4831	35	0	98.2%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680499	43.5	47.1	47.5	2	3	7		877	15	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680501	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680503	44.2	47.8	48.3	2	4	8	E CHASE DR	223	35	0	99.6%	0.3%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680505	65.0	68.6	69.1	43	93	201	E FOOTHILL PKY	12552	40	0	97.0%	0.9%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680507	49.4	53.0	53.4	4	8	18		509	40	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680509	54.2	57.8	58.3	8	18	38		2142	35	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680511	54.0	57.6	58.0	8	17	37		1422	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680513	59.5	63.1	63.5	19	40	86		3909	40	0	97.8%	0.7%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680516	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	E CHASE DR	0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680520	57.2	60.8	61.2	13	28	60	N COTA ST	2083	40	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680522	58.0	61.6	62.1	15	32	69	N COTA ST	2507	40	0	96.5%	1.6%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680530	64.4	68.0	68.4	39	85	182	HIDDEN VALLEY PKY	9043	45	0	97.4%	1.3%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680537	61.5	65.1	65.6	25	55	118	FULLERTON AVE	6570	40	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680539	56.1	59.7	60.2	11	24	51	CIRCLE CITY DR	2200	35	0	96.8%	1.4%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680541	43.3	46.9	47.3	2	3	7	FORD ST	970	15	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680544	61.5	65.2	65.6	25	55	118	FULLERTON AVE	6570	40	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680547	60.0	63.6	64.1	20	43	93	RIMPAU AVE	6774	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680549	67.0	70.6	71.0	59	126	272	E 6TH ST	15287	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680551	55.0	58.6	59.0	9	20	43	CIRCLE CITY DR	2366	35	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680556	63.0	66.6	67.0	32	68	147		8298	40	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680558	61.4	65.0	65.4	25	53	115		4854	45	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680566	62.3	65.9	66.4	29	62	133		6772	45	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680568	56.1	59.7	60.1	11	24	51	SANTANA WAY	2835	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680570	60.6	64.2	64.6	22	47	102	FULLERTON AVE	6227	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680572	46.5	50.1	50.5	3	5	12	TABER ST	256	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680575	67.7	71.3	71.7	65	141	303	E ONTARIO AVE	21008	45	0	98.5%	0.7%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2680580	62.0	65.6	66.1	27	59	127		6350	40	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680584	65.0	68.6	69.0	43	92	199	MAGNOLIA AVE	16655	40	0	99.1%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680586	50.1	53.7	54.2	4	9	20		947	30	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680588	63.0	66.6	67.0	32	68	147	FULLERTON AVE	10006	40	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2680593	59.7	63.3	63.8	19	41	89	CALIFORNIA AVE	4656	40	0	98.6%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683275	60.8	64.4	64.9	23	49	105	W 6TH ST	7338	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680611	64.7	68.3	68.8	41	89	192	CAJALCO RD	10998	45	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680613	60.8	64.4	64.8	23	49	105		4566	45	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680625	52.7	56.3	56.8	7	14	30		15161	15	0	99.7%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680628	66.5	70.1	70.5	54	116	251	MAGNOLIA AVE	14762	45	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680630	67.1	70.7	71.2	60	129	278	MAGNOLIA AVE	17670	45	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680632	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680635	61.7	65.3	65.8	26	56	121		5046	45	0	97.4%	1.5%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680637	64.1	67.7	68.2	38	82	176	YUMA DR	8811	45	0	97.6%	1.3%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680639	66.3	69.9	70.4	53	114	245	E ONTARIO AVE	14704	45	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680641	64.7	68.3	68.8	41	89	192	GRANT ST	13567	40	0	97.9%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680643	64.2	67.9	68.3	38	83	179	TEMESCAL CANYON RD	13256	40	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680647	66.0	69.7	70.1	51	109	236	CAJALCO RD	13375	45	0	97.8%	0.7%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680653	57.3	60.9	61.3	13	28	61	EL CERRITO RD	2095	45	0	99.2%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682185	61.5	65.1	65.5	25	54	117		6602	40	0	98.2%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680658	65.8	69.4	69.9	49	105	227	MAGNOLIA AVE	13293	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680660	66.9	70.5	70.9	58	124	268	MAGNOLIA AVE	16878	45	0	98.0%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680662	57.5	61.1	61.5	14	29	63	PROMENADE AVE	2886	40	0	98.5%	1.0%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680666	65.2	68.8	69.3	45	96	207	MC KINLEY ST	11519	45	0	97.8%	1.2%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680673	65.3	68.9	69.3	45	97	210	MAGNOLIA AVE	11990	45	0	98.2%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680679	66.3	69.9	70.4	53	114	245	MAGNOLIA AVE	15333	45	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680685	66.1	69.7	70.1	51	110	236	DE PALMA RD	10107	50	0	97.4%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680687	63.5	67.1	67.5	34	73	158		6156	50	0	98.6%	0.5%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680689	63.0	66.6	67.0	32	68	146	KNABE RD	8708	40	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682160	58.8	62.4	62.8	17	36	77		4831	35	0	98.2%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680695	67.4	71.0	71.5	63	135	291	KNABE RD	15258	50	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680697	62.2	65.8	66.3	28	61	131	TEMESCAL CANYON RD	7152	40	0	97.5%	0.9%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680699	59.7	63.3	63.7	19	41	89	TEMESCAL CANYON RD	5149	40	0	99.4%	0.2%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680702	61.6	65.2	65.6	26	55	118	TEMESCAL CANYON RD	7971	40	0	99.4%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682151	60.3	63.9	64.3	21	45	97	TEMESCAL CANYON RD	3269	50	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680714	62.5	66.1	66.6	29	64	137	E 6TH ST	6164	45	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680716	63.3	66.9	67.3	33	72	154	E 6TH ST	7652	45	0	98.3%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680718	68.9	72.6	73.0	79	171	367	MAGNOLIA AVE	26474	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680720	49.0	52.6	53.0	4	8	17	INDIANA AVE	440	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2680925	57.5	61.1	61.5	14	29	63	TEMESCAL CANYON RD	1555	50	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681942	58.8	62.4	62.9	17	36	77	S BUENA VISTA AVE	4617	35	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681944	61.2	64.8	65.3	24	52	112	W GRAND BLVD	7781	35	0	97.6%	0.9%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681948	69.6	73.2	73.6	87	188	406	GREEN RIVER RD	27234	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681950	68.5	72.1	72.5	74	159	343	GREEN RIVER RD	21419	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681953	46.7	50.3	50.8	3	6	12		2092	15	0	98.8%	0.4%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681956	69.6	73.2	73.6	87	188	406	GREEN RIVER RD	27234	45	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681958	68.5	72.2	72.6	74	160	345	GREEN RIVER RD	22039	45	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681966	67.3	70.9	71.3	61	132	284	SERFAS CLUB DR	18824	45	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681968	67.5	71.1	71.5	63	136	293	SERFAS CLUB DR	19314	45	0	98.0%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681970	56.1	59.7	60.2	11	24	51	PASEO GRANDE	5704	25	0	98.2%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681971	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		2617	0	0	94.3%	2.0%	3.7%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2681972	45.3	48.9	49.4	2	5	10	WARDLOW RD	733	15	0	95.9%	2.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681973	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2681974	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	WARDLOW RD	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681976	66.6	70.2	70.6	55	119	256	RAILROAD ST	5019	40	0	73.3%	10.1%	16.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681979	65.9	69.5	70.0	50	107	231	S MAPLE ST	7542	50	0	94.0%	2.2%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681980	49.4	53.0	53.5	4	8	18	PASEO GRANDE	1496	25	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681984	68.9	72.5	73.0	79	169	365	RIVER RD	22307	45	0	96.3%	1.4%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681988	57.2	60.8	61.2	13	28	60		2020	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681990	66.8	70.5	70.9	57	124	266	RIVER RD	15100	45	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681992	66.3	69.9	70.4	53	114	245	RIVER RD	13549	45	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681996	67.4	71.0	71.4	62	134	289	N LINCOLN AVE	18948	40	0	95.4%	1.9%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681998	58.0	61.6	62.1	15	32	69	N COTA ST	2507	40	0	96.5%	1.6%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682004	66.6	70.2	70.7	55	119	257	RAILROAD ST	10103	40	0	88.9%	4.8%	6.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682006	69.5	73.2	73.6	87	187	403	RAILROAD ST	6553	45	0	63.4%	13.4%	23.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682008	62.4	66.0	66.4	29	62	134	N MAPLE ST	6510	40	0	96.3%	1.4%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682011	62.5	66.2	66.6	30	64	138	N SMITH AVE	6434	40	0	95.7%	1.8%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682013	62.4	66.0	66.4	29	62	134	N MAPLE ST	6510	40	0	96.3%	1.4%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682016	58.5	62.1	62.5	16	34	73	POMONA RD	3406	35	0	96.0%	1.7%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682018	67.9	71.5	71.9	67	145	312	N LINCOLN AVE	20575	40	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682020	58.5	62.1	62.5	16	34	73	POMONA RD	3406	35	0	96.0%	1.7%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682024	55.7	59.3	59.7	10	22	48	N BUENA VISTA AVE	2012	35	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682030	64.0	67.6	68.0	37	80	172	RAILROAD ST	7918	40	0	93.9%	2.8%	3.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682034	58.7	62.3	62.8	17	36	77	N COTA ST	2844	40	0	96.2%	1.6%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682037	63.8	67.5	67.9	36	78	168	RAILROAD ST	7673	40	0	94.1%	2.7%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682040	55.0	58.6	59.0	9	20	43	MERRILL ST	1345	40	0	97.3%	1.2%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682049	64.3	68.0	68.4	39	84	181	RIVER RD	9107	45	0	97.8%	0.8%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682051	69.0	72.6	73.1	80	172	371	N MAIN ST	33475	40	0	97.5%	1.0%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682053	52.4	56.0	56.4	6	13	29	W RINCON ST	714	35	0	94.3%	2.5%	3.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682055	64.8	68.4	68.9	42	91	196	RIVER RD	10367	45	0	98.0%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682063	67.9	71.5	71.9	67	144	311	N MAIN ST	25452	40	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682067	63.9	67.5	68.0	37	79	170	E PARKRIDGE AVE	7962	45	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682069	67.8	71.5	71.9	67	144	310	N MAIN ST	25341	40	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32

2682072	57.4	61.0	61.4	13	29	62	E RINCON ST	2630	35	0	96.0%	1.5%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682079	61.7	65.3	65.7	26	56	120	N JOY ST	6522	40	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682083	60.7	64.3	64.8	22	48	104	E HARRISON ST	6681	35	0	97.0%	1.5%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682086	66.9	70.5	70.9	58	124	267	HIDDEN VALLEY PKY	14800	45	0	96.6%	1.6%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682088	61.5	65.1	65.5	25	54	117	E PARKRIDGE AVE	4539	45	0	97.0%	1.6%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682093	62.1	65.7	66.1	27	59	128	CRESTA RD	8048	40	0	98.5%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682095	56.8	60.5	60.9	12	27	57		3141	35	0	97.8%	1.3%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682097	36.4	40.0	40.5	1	1	2		226	15	0	98.4%	1.2%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682100	57.5	61.1	61.5	14	29	63	BUCHANAN ST	2878	40	0	98.5%	1.0%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682102	49.0	52.7	53.1	4	8	17		2287	15	0	97.0%	1.7%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682105	60.4	64.0	64.5	21	46	99	PROMENADE AVE	5353	40	0	98.1%	1.1%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682111	64.1	67.7	68.1	37	81	173	PROMENADE AVE	9903	45	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682113	63.0	66.6	67.0	32	68	147	E 6TH ST	6717	45	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682121	69.5	73.1	73.5	86	185	399	MC KINLEY ST	25410	45	0	96.3%	1.3%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682124	69.7	73.4	73.8	89	193	415	MAGNOLIA AVE	31956	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682129	51.2	54.8	55.2	5	11	24	S TEMESCAL ST	2975	15	0	96.7%	1.4%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682131	57.3	60.9	61.3	13	28	61	GRANT ST	1707	40	0	95.2%	1.2%	3.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682132	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	GRANT ST	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682137	65.4	69.0	69.5	46	99	214	MC KINLEY ST	10949	45	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682149	63.4	67.0	67.4	34	72	156	TEMESCAL CANYON RD	11333	40	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682156	65.7	69.3	69.8	48	104	224	KNABE RD	18163	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682162	58.8	62.4	62.8	17	36	77		4831	35	0	98.2%	0.6%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682166	62.9	66.5	66.9	31	67	145		8541	40	0	97.8%	0.7%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682170	59.8	63.4	63.9	19	42	90		6350	35	0	98.4%	0.5%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682174	56.2	59.8	60.3	11	24	52	RIMPAU AVE	2332	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682180	62.4	66.0	66.5	29	63	135		6824	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682183	66.1	69.7	70.1	51	110	237	E FOOTHILL PKY	12340	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682189	58.8	62.4	62.9	17	36	78		4368	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682191	65.2	68.8	69.2	44	96	206	E FOOTHILL PKY	13126	40	0	97.1%	0.9%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682193	60.5	64.1	64.5	22	47	101	RIMPAU AVE	6357	40	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682196	57.2	60.8	61.2	13	28	60		3015	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683281	66.2	69.8	70.2	52	111	240	W FOOTHILL PKY	11950	45	0	96.5%	1.1%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682198	65.5	69.1	69.6	47	101	217	E FOOTHILL PKY	14612	40	0	97.3%	0.8%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682200	61.3	65.0	65.4	25	53	114	RIMPAU AVE	5665	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682202	51.5	55.1	55.6	5	12	25	E CHASE DR	1191	35	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682204	62.3	65.9	66.3	29	62	133	RIMPAU AVE	7024	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682206	60.5	64.1	64.6	22	47	101	FULLERTON AVE	4628	45	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682209	65.2	68.8	69.2	44	96	206	E FOOTHILL PKY	13126	40	0	97.1%	0.9%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682216	61.2	64.8	65.2	24	52	111	FULLERTON AVE	7104	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682218	63.6	67.2	67.6	35	75	162	RIMPAU AVE	9503	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682220	59.8	63.4	63.9	19	42	90	CALIFORNIA AVE	4006	45	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682224	62.4	66.0	66.4	29	62	135	OLD TEMESCAL RD	5762	45	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682226	62.3	65.9	66.4	29	62	133	RIMPAU AVE	9392	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682228	53.7	57.3	57.7	8	16	35		900	40	0	96.4%	1.5%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682230	64.4	68.0	68.4	39	85	182	RIMPAU AVE	16964	35	0	98.0%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682233	67.7	71.3	71.7	65	140	303	MAGNOLIA AVE	27768	40	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682236	59.3	62.9	63.3	18	39	83		3209	45	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682240	63.5	67.1	67.5	34	74	159	FULLERTON AVE	11704	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682243	66.4	70.0	70.4	53	115	248	MAGNOLIA AVE	21643	40	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682245	67.2	70.8	71.2	60	130	279	E ONTARIO AVE	19063	45	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682247	49.3	52.9	53.4	4	8	18	KELLOGG AVE	673	35	0	99.1%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682249	67.6	71.2	71.6	64	138	297	E ONTARIO AVE	21083	45	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2682252	51.5	55.1	55.5	5	12	25	SANTANA WAY	817	40	0	99.6%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682255	54.5	58.1	58.6	9	19	40	KELLOGG AVE	2142	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682259	65.5	69.2	69.6	47	101	218	E FOOTHILL PKY	14841	40	0	97.4%	0.8%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682261	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	GARRETSON AVE	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682264	64.6	68.2	68.6	40	87	187	MAGNOLIA AVE	15573	40	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682267	51.9	55.5	56.0	6	13	27	E CHASE DR	1187	35	0	99.0%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682270	57.0	60.6	61.0	13	27	58	S MAIN ST	2734	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683279	67.9	71.5	71.9	67	145	312		18575	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682274	61.6	65.2	65.7	26	55	119	S MAIN ST	7983	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682278	50.3	53.9	54.3	5	10	21		1265	30	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682281	56.6	60.2	60.6	12	26	55		2485	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682287	54.9	58.5	58.9	9	20	42	MOUNTAIN GATE DR	1830	40	0	99.8%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682291	64.3	67.9	68.3	39	84	180	LINCOLN AVE	9511	45	0	98.3%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682295	58.2	61.8	62.2	15	33	70		3655	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682297	55.9	59.5	60.0	11	23	50		2137	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682300	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		1925	0	0	99.0%	0.4%	0.5%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2682301	56.6	60.2	60.7	12	26	55		2497	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682305	54.4	58.0	58.4	8	18	39		2179	35	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682307	56.0	59.6	60.0	11	23	50		2833	35	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682309	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682311	66.1	69.7	70.1	51	109	236	W ONTARIO AVE	15808	45	0	99.2%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682313	54.3	57.9	58.3	8	18	39		1827	35	0	98.3%	0.9%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682315	52.9	56.5	56.9	7	14	31	W ONTARIO AVE	2890	25	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682317	50.2	53.8	54.3	4	10	21		771	35	0	98.9%	0.4%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682323	51.9	55.5	55.9	6	12	27	SAPPHIRE LN	1234	35	0	99.2%	0.5%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682320	53.8	57.4	57.9	8	17	36		1618	35	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682325	61.5	65.1	65.5	25	54	116	BORDER AVE	10528	35	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2682337	60.3	63.9	64.4	21	45	98	BORDER AVE	8578	35	0	99.3%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682339	59.9	63.5	63.9	20	42	91	PLZ DE NOCHE	6695	35	0	98.4%	0.8%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682342	62.5	66.1	66.5	29	63	136	VIA PACIFICA	9348	40	0	99.0%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682345	57.0	60.6	61.0	13	27	59		2836	40	0	99.4%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682347	62.5	66.1	66.5	29	63	136	VIA PACIFICA	9348	40	0	99.0%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682349	64.3	67.9	68.3	39	84	180	S LINCOLN AVE	13066	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682353	64.2	67.8	68.2	38	82	177	S LINCOLN AVE	17516	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682355	62.3	65.9	66.4	29	62	133	S LINCOLN AVE	12251	35	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682358	64.5	68.1	68.6	40	87	187	W 6TH ST	19040	35	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682360	54.0	57.6	58.0	8	17	37	CITRON ST	1810	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682362	67.0	70.6	71.0	58	126	271	W ONTARIO AVE	18308	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682365	54.3	57.9	58.4	8	18	39	CITRON ST	2086	35	0	99.2%	0.3%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682371	55.2	58.8	59.2	10	21	44	CITRON ST	2579	35	0	99.2%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682383	56.4	60.0	60.4	12	25	53	S BUENA VISTA AVE	3328	35	0	99.1%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682385	55.9	59.5	60.0	11	23	50	S BUENA VISTA AVE	3020	35	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682387	54.4	58.0	58.5	9	18	40	W 8TH ST	1370	40	0	98.3%	0.9%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682389	62.3	65.9	66.4	29	62	133	S LINCOLN AVE	12251	35	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682393	63.2	66.8	67.2	33	70	151	S LINCOLN AVE	14635	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682395	59.6	63.2	63.7	19	41	88	N BUENA VISTA AVE	4291	35	0	95.8%	1.6%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682399	59.6	63.2	63.6	19	41	87	W GRAND BLVD	6100	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682401	54.2	57.8	58.2	8	18	38	W OLIVE ST	2122	35	0	99.4%	0.4%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682405	60.7	64.3	64.8	22	48	104	W GRAND BLVD	8274	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682406	61.1	64.7	65.1	24	51	110	W GRAND BLVD	8803	35	0	98.4%	0.8%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682409	64.1	67.7	68.2	38	81	175	W 6TH ST	16586	35	0	98.1%	0.8%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682412	57.1	60.7	61.1	13	28	59	E OLIVE ST	3229	35	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682414	29.9	33.5	34.0	0	0	1		47	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682418	55.7	59.3	59.7	10	22	48	GARRETSON AVE	1990	40	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682421	46.9	50.5	50.9	3	6	12	GARRETSON AVE	562	30	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682424	46.9	50.5	50.9	3	6	12	GARRETSON AVE	562	30	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682426	57.5	61.1	61.5	14	29	63	KELLOGG AVE	3678	35	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682431	55.1	58.7	59.2	9	20	44	W 8TH ST	1568	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682433	52.9	56.5	56.9	7	15	31	W GRAND BLVD	1537	30	0	97.4%	0.9%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682437	55.3	58.9	59.4	10	21	45	W 8TH ST	1651	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682444	55.4	59.0	59.5	10	21	46	W 6TH ST	4918	25	0	98.2%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682450	49.7	53.3	53.8	4	9	19		898	30	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682452	31.8	35.4	35.8	0	1	1	W 2ND ST	22	15	0	93.9%	2.8%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682458	64.9	68.5	68.9	43	92	197	S MAIN ST	15066	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682461	46.5	50.1	50.5	3	5	12	W 10TH ST	1427	15	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682464	59.6	63.2	63.6	19	41	87	W GRAND BLVD	6100	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682467	44.1	47.7	48.1	2	4	8	E 10TH ST	500	15	0	96.3%	1.3%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682469	39.7	43.4	43.8	1	2	4		107	30	0	99.0%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682471	39.3	42.9	43.3	1	2	4	E 10TH ST	317	15	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682476	58.0	61.6	62.1	15	32	69	E 8TH ST	3006	40	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682479	58.7	62.3	62.7	16	35	76	E 8TH ST	3213	40	0	97.6%	1.0%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682483	47.1	50.8	51.2	3	6	13		619	30	0	99.3%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682485	54.4	58.0	58.4	8	18	39	E 6TH ST	3844	25	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682489	54.0	57.6	58.0	8	17	37	E 6TH ST	3761	25	0	98.5%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682491	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		987	0	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2682492	57.8	61.4	61.9	14	31	67	E 8TH ST	2940	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682494	62.3	65.9	66.3	29	61	132	E GRAND BLVD	11416	35	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682504	54.9	58.5	58.9	9	20	42	E 3RD ST	4243	15	0	94.7%	1.6%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682508	60.3	63.9	64.3	21	45	97	EL SOBRANTE RD	7319	35	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682511	66.8	70.4	70.8	57	123	264	E 6TH ST	18614	40	0	96.7%	1.3%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682517	60.3	63.9	64.3	21	45	97	FULLERTON AVE	6694	35	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682520	57.5	61.1	61.5	14	29	63	KELLOGG AVE	3678	35	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682522	57.1	60.7	61.1	13	28	59	KELLOGG AVE	3456	35	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2682527	61.8	65.4	65.8	26	57	123	EL SOBRANTE RD	9651	35	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682539	66.2	69.8	70.2	52	111	240	HIDDEN VALLEY PKY	13250	45	0	97.1%	1.4%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682541	64.4	68.0	68.4	39	85	182	HIDDEN VALLEY PKY	9043	45	0	97.4%	1.3%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2682848	60.1	63.7	64.1	20	44	94	BUCHANAN ST	5211	40	0	98.4%	1.1%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683283	59.6	63.2	63.7	19	41	88	N BUENA VISTA AVE	4291	35	0	95.8%	1.6%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683288	56.3	59.9	60.4	11	25	53	PASEO GRANDE	6139	25	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683290	67.1	70.7	71.1	59	128	275	W 6TH ST	27631	35	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683292	67.8	71.4	71.9	67	144	310	W FOOTHILL PKY	18249	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683293	68.2	71.8	72.2	70	152	326	W FOOTHILL PKY	19926	45	0	96.9%	1.0%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683294	67.8	71.4	71.9	67	144	310	W FOOTHILL PKY	18249	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683295	67.8	71.4	71.9	67	144	310	W FOOTHILL PKY	18249	45	0	96.9%	1.0%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683296	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683297	58.1	61.7	62.1	15	32	69	TEMESCAL CANYON RD	1753	50	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683305	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683300	60.3	63.9	64.3	21	45	97	TEMESCAL CANYON RD	5639	40	0	99.1%	0.3%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683302	75.4	79.0	79.4	212	458	986	SR 91 HOV	33281	65	0	92.1%	1.9%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2683319	75.9	79.5	79.9	229	494	1064		39910	65	0	93.4%	1.6%	5.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683321	75.9	79.5	79.9	229	494	1064		39910	65	0	93.4%	1.6%	5.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683322	80.0	83.6	84.1	433	932	2008	ONTARIO FWY	92404	65	0	91.7%	2.1%	6.2%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
2683323	76.5	80.1	80.6	253	546	1176	ONTARIO FWY	44756	65	0	92.8%	2.0%	5.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2683324	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		7440	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683325	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A		32470	65	0	91.9%	2.0%	6.1%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2683332	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	15719	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2683329	56.1	59.7	60.2	11	24	51	PASEO GRANDE	5704	25	0	98.2%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683342	59.1	62.7	63.1	17	37	81		7516	30	0	97.9%	1.1%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683339	60.2	63.9	64.3	21	45	97		6436	30	0	95.7%	1.6%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2683337	56.1	59.7	60.1	11	24	51	W 2ND ST	2606	30	0	96.0%	1.6%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676937	58.0	61.6	62.0	15	32	68	PROMENADE AVE	3384	40	0	98.9%	0.7%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124867	66.2	69.8	70.2	52	111	239	YUMA DR	13507	45	0	97.2%	1.4%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

Traffic Noise Calculator: FHWA 77-108 **Corona General Plan: CRNA-01 Future**

	Output						Inputs														Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																		
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
22244	82.2	85.8	86.2	602	1297	2795	RIVERSIDE FWY		133747	65	0	89.6%	2.2%	8.3%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22247	82.6	86.2	86.6	640	1379	2971	RIVERSIDE FWY		137340	65	0	88.0%	2.5%	9.6%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22248	82.4	86.0	86.4	623	1342	2891	RIVERSIDE FWY		129337	65	0	87.5%	2.5%	10.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22257	82.4	86.0	86.4	623	1342	2891	RIVERSIDE FWY		129337	65	0	87.5%	2.5%	10.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22260	82.5	86.1	86.6	637	1373	2958	RIVERSIDE FWY		147210	65	0	89.8%	2.2%	8.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22262	82.5	86.1	86.6	637	1373	2958	RIVERSIDE FWY		147210	65	0	89.8%	2.2%	8.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22271	82.9	86.6	87.0	679	1463	3152	RIVERSIDE FWY		149818	65	0	87.9%	2.4%	9.6%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22273	82.9	86.6	87.0	679	1463	3152	RIVERSIDE FWY		149818	65	0	87.9%	2.4%	9.6%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22275	82.3	86.0	86.4	620	1335	2876	RIVERSIDE FWY		139746	65	0	89.6%	2.2%	8.3%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22290	82.9	86.5	86.9	670	1442	3108	RIVERSIDE FWY		144847	65	0	87.6%	2.5%	9.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22292	82.7	86.3	86.8	658	1417	3054	RIVERSIDE FWY		155909	65	0	90.0%	2.1%	7.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22293	82.7	86.3	86.7	650	1400	3015	RIVERSIDE FWY		151888	65	0	89.9%	2.1%	8.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22295	83.0	86.7	87.1	690	1487	3203	RIVERSIDE FWY		154114	65	0	88.0%	2.4%	9.5%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22296	83.1	86.7	87.1	695	1498	3227	RIVERSIDE FWY		173040	65	0	90.5%	2.1%	7.4%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22302	83.0	86.6	87.0	683	1471	3168	RIVERSIDE FWY		150278	65	0	87.8%	2.5%	9.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22305	82.9	86.5	87.0	678	1460	3145	RIVERSIDE FWY		164658	65	0	90.3%	2.1%	7.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22309	83.3	86.9	87.4	721	1552	3344	RIVERSIDE FWY		168823	65	0	88.7%	2.4%	9.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22310	83.2	86.8	87.2	703	1515	3264	RIVERSIDE FWY		161351	65	0	88.5%	2.4%	9.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22314	83.1	86.7	87.2	699	1507	3246	RIVERSIDE FWY		170686	65	0	89.9%	2.2%	7.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22317	83.4	87.0	87.5	729	1570	3383	RIVERSIDE FWY		169405	65	0	88.3%	2.5%	9.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22327	80.7	84.3	84.8	483	1040	2241	RIVERSIDE FWY		91878	65	0	88.6%	2.2%	9.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22328	74.3	77.9	78.3	179	387	833			45462	40	0	86.7%	3.0%	10.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
22336	82.4	86.0	86.5	626	1348	2905	RIVERSIDE FWY		145211	65	0	90.1%	2.1%	7.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22341	79.1	82.7	83.1	376	810	1745	ONTARIO FWY		77976	65	0	92.4%	2.1%	5.5%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22343	83.0	86.6	87.0	680	1466	3159	RIVERSIDE FWY		164543	65	0	90.7%	2.1%	7.2%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
22346	83.0	86.6	87.0	680	1464	3155	RIVERSIDE FWY		153027	65	0	89.1%	2.3%	8.5%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
22348	83.3	87.0	87.4	722	1556	3352	RIVERSIDE FWY		183946	65	0	91.2%	2.1%	6.7%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
22353	80.5	84.1	84.5	464	1000	2155	TEMECULA VALLEY FWY		95517	65	0	89.5%	2.7%	7.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22354	80.5	84.1	84.5	466	1004	2162	TEMECULA VALLEY FWY		94718	65	0	89.2%	2.8%	8.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22386	80.4	84.0	84.5	460	990	2133	TEMECULA VALLEY FWY		93521	65	0	89.3%	2.7%	7.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22392	70.4	74.0	74.4	99	213	459			26825	30	0	86.4%	2.8%	10.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22393	62.2	65.8	66.2	28	61	130			12109	30	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22400	81.4	85.0	85.4	535	1152	2482	TEMECULA VALLEY FWY		115314	65	0	90.7%	2.4%	6.9%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
22402	74.4	78.0	78.4	183	393	848			38935	50	0	89.7%	2.3%	8.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22403	78.5	82.2	82.6	346	745	1605	ONTARIO FWY		69249	65	0	92.1%	2.2%	5.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22422	78.1	81.7	82.1	320	690	1487	ONTARIO FWY		64067	65	0	92.9%	2.1%	5.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22423	58.2	61.8	62.2	15	33	71			6579	25	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
22444	78.9	82.5	82.9	362	781	1682	ONTARIO FWY		75476	65	0	92.5%	2.1%	5.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22477	80.3	83.9	84.3	450	969	2087	TEMECULA VALLEY FWY		93626	65	0	90.2%	2.5%	7.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22488	80.7	84.3	84.8	481	1037	2234	TEMECULA VALLEY FWY		103375	65	0	90.1%	2.5%	7.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22507	80.9	84.5	85.0	498	1073	2313	TEMECULA VALLEY FWY		111378	65	0	90.6%	2.4%	6.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22559	80.9	84.5	84.9	495	1067	2300	ONTARIO FWY		107030	65	0	90.3%	2.5%	7.2%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22575	80.9	84.5	85.0	498	1073	2311	RIVERSIDE FWY		98457	65	0	89.1%	2.1%	8.7%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22601	72.4	76.0	76.4	134	290	624			42962	30	0	86.5%	3.1%	10.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
22630	80.4	84.0	84.4	457	985	2121	TEMECULA VALLEY FWY		91757	65	0	89.1%	2.8%	8.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22723	78.4	82.0	82.5	338	728	1569	ONTARIO FWY		70647	65	0	93.3%	2.0%	4.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22724	66.1	69.7	70.1	51	110	237			12994	30	0	90.7%	1.6%	7.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
22759	81.4	85.0	85.4	533	1149	2475	RIVERSIDE FWY		118385	65	0	90.9%	2.0%	7.1%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22846	81.0	84.6	85.1	504	1086	2341	TEMECULA VALLEY FWY		113135	65	0	90.6%	2.5%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22857	80.5	84.1	84.5	464	1000	2155	TEMECULA VALLEY FWY		98246	65	0	90.2%	2.6%	7.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22866	81.0	84.6	85.0	502	1081	2328	TEMECULA VALLEY FWY		109031	65	0	90.3%	2.5%	7.2%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22873	80.7	84.3	84.7	480	1034	2227	TEMECULA VALLEY FWY		106203	65	0	90.8%	2.4%	6.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22889	80.7	84.3	84.7	479	1032	2224	TEMECULA VALLEY FWY		102111	65	0	90.0%	2.6%	7.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22905	80.9	84.5	85.0	497	1071	2306	RIVERSIDE FWY		102431	65	0	89.6%	2.1%	8.4%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
22934	80.9	84.5	84.9	496	1068	2301	TEMECULA VALLEY FWY		110149	65	0	90.5%	2.5%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
22939	81.1	84.7	85.1	511	1100	2370	RIVERSIDE FWY		110858	65	0	90.8%	2.1%	7.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
22982	80.1	83.7	84.1	438	945	2035	TEMECULA VALLEY FWY		88662	65	0	89.8%	2.6%	7.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23012	80.6	84.2	84.6	471	1014	2184	TEMECULA VALLEY FWY		100206	65	0	90.6%	2.4%	7.0%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23019	80.7	84.3	84.7	479	1033	2225	TEMECULA VALLEY FWY		101389	65	0	89.8%	2.6%	7.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23059	81.3	85.0	85.4	531	1145	2467	RIVERSIDE FWY		113234	65	0	90.1%	2.0%	7.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
23065	80.6	84.2	84.6	473	1019	2196	TEMECULA VALLEY FWY		99316	65	0	89.7%	2.7%	7.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23079	81.1	84.7	85.1	512	1102	2374	RIVERSIDE FWY		108758	65	0	89.9%	2.1%	8.0%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23082	80.9	84.5	84.9	492	1061	2285	RIVERSIDE FWY		105391	65	0	91.0%	2.0%	7.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
23083	69.3	72.9	73.3	83	179	386			19762	50	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
23086	80.6	84.3	84.7	477	1028	2214	TEMECULA VALLEY FWY		99698	65	0	89.5%	2.7%	7.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23101	80.7	84.3	84.8	483	1041	2242	TEMECULA VALLEY FWY		102583	65	0	89.8%	2.6%	7.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23104	81.0	84.6	85.0	504	1085	2337	TEMECULA VALLEY FWY		114810	65	0	90.9%	2.4%	6.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23126	80.9	84.5	84.9	496	1068	2301	TEMECULA VALLEY FWY		108653	65	0	90.2%	2.5%	7.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23132	80.6	84.3	84.7	477	1028	2215	TEMECULA VALLEY FWY		101426	65	0	89.9%	2.6%	7.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23155	80.7	84.3	84.7	481	1037	2233	RIVERSIDE FWY		102366	65	0	90.5%	2.2%	7.3%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44

23192	80.7	84.3	84.7	479	1032	2223	TEMECULA VALLEY FWY		99212	65	0	89.7%	2.6%	7.7%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23223	80.6	84.2	84.6	472	1018	2192	TEMECULA VALLEY FWY		97585	65	0	89.4%	2.7%	7.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32

23254	62.8	66.4	66.8	31	66	142		13534	30	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
23255	59.7	63.3	63.8	19	41	89		6228	30	0	96.3%	1.3%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
23309	80.6	84.2	84.6	473	1018	2194	TEMECULA VALLEY FWY	101169	65	0	90.7%	2.4%	6.9%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
23344	80.7	84.3	84.7	478	1029	2218	TEMECULA VALLEY FWY	101715	65	0	89.9%	2.6%	7.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
23345	80.5	84.1	84.5	465	1002	2159	TEMECULA VALLEY FWY	93981	65	0	89.0%	2.8%	8.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
25723	83.1	86.8	87.2	701	1510	3253	RIVERSIDE FWY	163886	65	0	89.6%	2.3%	8.1%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
25725	82.8	86.4	86.9	668	1440	3102	RIVERSIDE FWY	159544	65	0	89.9%	2.4%	7.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
26192	79.0	82.6	83.1	372	801	1726	ONTARIO FWY	76722	65	0	92.5%	2.0%	5.5%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
26194	78.7	82.3	82.7	353	760	1637	ONTARIO FWY	69580	65	0	92.0%	2.2%	5.8%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
26195	79.4	83.0	83.5	396	852	1836	ONTARIO FWY	83639	65	0	92.9%	1.9%	5.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
66495	59.1	62.7	63.2	18	38	81		2500	30	0	90.3%	1.4%	8.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
85594	80.6	84.2	84.6	474	1020	2198	RIVERSIDE FWY	99497	65	0	90.4%	2.2%	7.4%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
85596	80.9	84.5	85.0	497	1071	2308	RIVERSIDE FWY	102630	65	0	89.6%	2.1%	8.3%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
90723	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94290	62.2	65.8	66.2	28	60	130		11463	30	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94293	66.9	70.5	70.9	57	124	267		20481	25	0	90.6%	2.2%	7.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687858	56.6	60.2	60.6	12	25	55	S VICTORIA AVE	2836	30	0	95.9%	1.5%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687854	57.5	61.1	61.5	14	29	63	N BUENA VISTA AVE	2807	35	0	96.1%	1.7%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94297	61.9	65.5	66.0	27	58	125		7465	30	0	93.5%	2.6%	3.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94299	58.2	61.8	62.3	15	33	71		4971	30	0	96.9%	1.4%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94303	62.7	66.3	66.7	30	65	140		9268	30	0	94.3%	1.8%	3.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94304	58.0	61.6	62.1	15	32	69		4021	30	0	95.8%	1.7%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94306	65.0	68.6	69.0	43	93	200		18545	30	0	95.5%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94307	61.7	65.3	65.7	26	56	121		8382	30	0	95.1%	1.8%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94308	65.2	68.8	69.3	45	96	208		8054	30	0	84.4%	5.3%	10.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94315	61.6	65.2	65.7	26	55	119		8650	30	0	95.7%	1.4%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94316	61.5	65.1	65.5	25	54	117		10859	30	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94318	56.1	59.7	60.1	11	24	51		2867	30	0	96.6%	1.4%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94326	54.8	58.4	58.9	9	19	42		2778	30	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94353	63.2	66.8	67.3	33	71	153		12577	30	0	95.6%	1.6%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94356	62.1	65.7	66.1	27	59	128		11896	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94399	55.0	58.6	59.0	9	20	43		3760	30	0	99.4%	0.2%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94465	64.2	67.8	68.3	38	83	178		11903	30	0	93.4%	2.0%	4.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94477	60.3	63.9	64.3	21	45	97		9267	30	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94481	62.6	66.2	66.6	30	64	138		8615	30	0	93.7%	2.1%	4.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94503	62.1	65.8	66.2	28	60	129		11544	30	0	96.7%	1.3%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94515	69.7	73.3	73.8	89	193	415	TEMECULA VALLEY FWY	11746	65	0	97.4%	0.8%	1.7%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
94528	53.2	56.8	57.3	7	15	33		2399	30	0	99.2%	0.3%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94530	61.7	65.3	65.8	26	56	121		15104	30	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94541	59.5	63.1	63.6	19	40	87		7702	30	0	97.9%	0.7%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94542	60.4	64.0	64.5	21	46	99		8723	30	0	97.6%	0.8%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94548	57.8	61.4	61.9	14	31	67		4343	30	0	96.1%	2.1%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
94556	63.9	67.5	67.9	36	78	169		16102	30	0	96.4%	1.2%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
94599	59.8	63.4	63.8	19	42	90		8602	30	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95271	61.4	65.1	65.5	25	54	116		8396	30	0	95.7%	1.5%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95272	59.9	63.5	63.9	20	42	91		6917	30	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95726	62.4	66.0	66.4	29	62	135		11025	30	0	96.1%	1.3%	2.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95727	58.7	62.3	62.7	16	35	76		7957	30	0	99.0%	0.4%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95733	59.9	63.5	63.9	20	42	92		6128	30	0	95.4%	2.1%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95737	55.3	58.9	59.3	10	21	45		2885	30	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95738	61.8	65.4	65.8	26	57	122		15495	30	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95739	62.4	66.0	66.5	29	63	135		12508	30	0	96.8%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95740	61.8	65.4	65.8	26	57	122		9819	30	0	96.1%	1.5%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95742	60.0	63.6	64.1	20	43	93		3836	40	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95747	55.0	58.6	59.1	9	20	43		3604	30	0	99.2%	0.3%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95748	60.4	64.0	64.5	21	46	99		9958	30	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95749	61.8	65.4	65.8	26	57	122		3050	30	0	80.7%	6.6%	12.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95750	59.2	62.8	63.2	18	38	82		3657	30	0	92.8%	2.5%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95761	60.1	63.7	64.1	20	44	94		8003	30	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
95769	60.7	64.3	64.8	22	48	104		9145	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95780	53.1	56.7	57.2	7	15	32		1947	30	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
95781	55.0	58.6	59.1	9	20	43		1996	30	0	95.8%	1.7%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
96184	60.4	64.0	64.4	21	46	99		7264	30	0	96.5%	1.2%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99664	72.6	76.2	76.7	139	299	644	S MAIN ST	43149	45	0	94.4%	1.6%	4.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
99667	68.4	72.0	72.4	72	156	336	S MAIN ST	22620	45	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99669	58.7	62.3	62.7	16	35	76	W 2ND ST	2201	40	0	94.1%	1.9%	4.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99676	63.8	67.4	67.8	36	77	166	S LINCOLN AVE	15542	35	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99677	66.8	70.4	70.9	57	123	265	LINCOLN AVE	19137	40	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99678	60.2	63.8	64.3	21	45	96	POMONA RD	3933	40	0	96.1%	1.6%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99679	59.0	62.6	63.1	17	37	80	POMONA RD	3934	35	0	96.1%	1.6%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
99681	68.3	71.9	72.3	71	154	332	S MAPLE ST	12766	50	0	93.7%	2.4%	3.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99682	68.2	71.8	72.3	71	152	328	S MAPLE ST	13445	50	0	94.7%	2.0%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99810	69.4	73.0	73.4	85	183	394	MC KINLEY ST	27462	45	0	97.0%	1.5%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
99811	68.5	72.1	72.6	74	160	345	MC KINLEY ST	23120	45	0	97.2%	1.4%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
99822	68.6	72.2	72.7	75	162	349	CAJALCO RD	25406	45	0	98.5%	0.5%	1.0%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
99823	67.5	71.1	71.5	63	136	293	CAJALCO RD	20276	45	0	98.7%	0.5%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
100478	72.1	75.7	76.1	128	277	596	GREEN RIVER RD	44172	45	0	95.9%	1.4%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116322	63.4	67.0	67.4	34	72	156	W GRAND BLVD	12082	35	0	97.2%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116323	55.8	59.4	59.8	11	23	49	W 6TH ST	4539	25	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

116324	62.3	65.9	66.4	29	62	133	W GRAND BLVD	10638	35	0	97.8%	1.1%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116325	65.6	69.2	69.6	47	102	220	W 6TH ST	21241	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116341	68.0	71.6	72.1	69	148	319	MAGNOLIA AVE	20025	45	0	97.2%	1.2%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116342	67.8	71.4	71.8	66	143	308	MAGNOLIA AVE	20730	45	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116343	69.6	73.2	73.6	87	187	404	MAGNOLIA AVE	30437	45	0	97.8%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116362	42.5	46.1	46.6	1	3	6	S MERRILL ST	1004	15	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116363	62.2	65.8	66.3	28	61	131	W GRAND BLVD	9828	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116364	39.3	42.9	43.4	1	2	4	S MERRILL ST	453	15	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116365	62.1	65.7	66.2	28	60	129	W GRAND BLVD	9444	35	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116370	56.8	60.4	60.8	12	26	57	W OLIVE ST	3589	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116371	55.5	59.1	59.5	10	22	47	W OLIVE ST	2660	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116372	59.1	62.7	63.2	18	38	81	N COTA ST	2939	40	0	95.6%	1.9%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116373	65.1	68.7	69.1	44	94	204	RAILROAD ST	8043	40	0	90.7%	4.2%	5.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116374	65.7	69.3	69.8	48	104	224	RAILROAD ST	9826	40	0	91.6%	3.8%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116375	46.6	50.2	50.6	3	6	12	W GRAND BLVD	1104	15	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116376	54.5	58.1	58.5	9	19	40	10TH ST	2201	30	0	97.3%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116377	55.2	58.8	59.2	10	21	44	TAYLOR AVE	2501	35	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116378	54.7	58.3	58.7	9	19	41	W OLIVE ST	1769	35	0	97.8%	0.8%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116381	54.1	57.7	58.1	8	17	38	TAYLOR AVE	2075	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116382	53.8	57.4	57.9	8	17	36	CITRON ST	1542	35	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116383	54.0	57.6	58.1	8	17	37	CITRON ST	1697	35	0	98.4%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116384	61.7	65.3	65.7	26	56	120	S MAIN ST	8207	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116385	58.5	62.1	62.5	16	34	74	S MAIN ST	3790	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116387	69.6	73.2	73.7	88	189	408	W ONTARIO AVE	27657	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116388	69.3	72.9	73.4	84	181	389	W ONTARIO AVE	25369	45	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116389	69.4	73.0	73.5	85	184	396	EL CERRITO RD	25550	45	0	96.6%	1.1%	2.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116390	70.3	73.9	74.3	97	209	451	EL CERRITO RD	28181	45	0	95.6%	1.4%	3.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116410	62.9	66.5	66.9	31	67	145	S TEMESCAL ST	3551	50	0	92.9%	2.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116411	68.9	72.5	72.9	78	169	364	MAGNOLIA AVE	25211	45	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116412	50.3	53.9	54.3	5	10	21	S TEMESCAL ST	4010	15	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116413	68.2	71.8	72.3	71	153	329	MAGNOLIA AVE	21006	45	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116414	68.9	72.5	73.0	79	170	367	N LINCOLN AVE	26155	40	0	95.5%	1.4%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116415	67.8	71.4	71.8	66	142	306	RIVER RD	19410	45	0	97.4%	1.0%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116416	69.4	73.0	73.4	85	182	393	N LINCOLN AVE	30092	40	0	95.7%	1.4%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116422	65.1	68.7	69.1	44	94	203	EL CERRITO RD	13246	45	0	99.6%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116423	55.7	59.3	59.7	10	22	48	E CHASE DR	2318	35	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116424	63.6	67.2	67.6	35	75	161	S MAIN ST	12146	40	0	99.1%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116431	32.7	36.3	36.8	0	1	1	S MERRILL ST	122	15	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116432	54.9	58.5	59.0	9	20	43	W 6TH ST	3891	25	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116435	31.1	34.7	35.2	0	1	1	W 2ND ST	54	15	0	98.3%	0.9%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116438	57.4	61.0	61.4	13	29	62	MERRILL ST	2332	40	0	97.2%	1.3%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116439	63.7	67.3	67.8	36	77	165	W GRAND BLVD	13217	35	0	97.2%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116440	62.9	66.5	67.0	31	68	146	W GRAND BLVD	10893	35	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116442	46.0	49.6	50.1	2	5	11	W 10TH ST	850	15	0	96.6%	1.3%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116451	64.8	68.4	68.8	42	90	193	S MAIN ST	14117	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116452	70.1	73.7	74.1	94	203	437	E ONTARIO AVE	30363	45	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116453	61.6	65.2	65.6	26	55	119	S MAIN ST	7492	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116454	59.6	63.2	63.6	19	40	87	N COTA ST	3588	40	0	96.6%	1.4%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116457	65.5	69.1	69.6	47	101	218	RAILROAD ST	9887	40	0	92.2%	3.6%	4.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116458	65.5	69.1	69.5	47	101	217	S MAIN ST	16605	40	0	98.1%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116462	66.4	70.0	70.5	54	115	249	PROMENADE AVE	15272	45	0	97.9%	1.2%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116464	59.5	63.1	63.5	18	40	86	N COTA ST	3139	40	0	95.4%	2.1%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116465	66.7	70.3	70.8	56	121	261	RIVER RD	15237	45	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116473	67.4	71.0	71.4	62	134	289	S MAIN ST	24882	40	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116474	59.9	63.5	64.0	20	43	92	E OLIVE ST	5599	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116475	50.4	54.0	54.5	5	10	21	E 6TH ST	1818	25	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116493	66.6	70.2	70.6	55	119	255	W GRAND BLVD	19430	35	0	94.7%	2.3%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116494	65.3	68.9	69.3	45	97	209	S MAIN ST	15408	40	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116495	58.4	62.0	62.5	16	34	73	E GRAND BLVD	4859	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116500	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	GARRETSON AVE	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116501	68.7	72.3	72.7	76	164	352	E FOOTHILL PKY	23690	40	0	95.0%	1.5%	3.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116505	39.5	43.1	43.5	1	2	4	E 10TH ST	242	15	0	97.2%	1.3%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116506	65.4	69.0	69.5	46	99	214	S MAIN ST	15821	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116516	52.6	56.2	56.7	6	14	30	E CHASE DR	1194	35	0	98.1%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116517	23.3	26.9	27.3	0	0	0	E CHASE DR	2	35	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116518	52.6	56.2	56.6	6	14	30	KELLOGG AVE	1193	35	0	98.1%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116520	63.2	66.8	67.3	33	71	153	W PARKRIDGE AVE	5600	45	0	95.1%	2.1%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116521	71.7	75.4	75.8	122	262	565	N MAIN ST	47533	40	0	95.2%	1.3%	3.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116522	59.8	63.4	63.9	20	42	91	E RINCON ST	4120	35	0	95.0%	1.9%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116523	72.1	75.7	76.2	129	277	598	N MAIN ST	51917	40	0	95.2%	1.4%	3.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116525	63.7	67.3	67.8	36	77	165	E 6TH ST	6551	45	0	95.9%	1.6%	2.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116529	71.2	74.8	75.3	112	241	520	N MAIN ST	39898	40	0	94.6%	1.4%	4.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116531	70.7	74.3	74.7	103	223	480	N MAIN ST	34075	40	0	94.4%	1.4%	4.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116532	64.8	68.4	68.8	42	90	194	E PARKRIDGE AVE	8717	45	0	96.2%	1.5%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116540	43.3	46.9	47.4	2	3	7	S JOY ST	973	15	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116545	38.9	42.5	43.0	1	2	4	S JOY ST	285	15	0	98.1%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116546	39.1	42.7	43.1	1	2	4	E GRAND BLVD	265	15	0	97.7%	1.2%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116565	57.5	61.1	61.6	14	30	64	GARRETSON AVE	2968	40	0	98.8%	0.7%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116566	61.4	65.1	65.5	25	54	116	GARRETSON AVE	5481	45	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

116578	49.4	53.0	53.4	4	8	18	GARRETSON AVE	886	30	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116579	61.0	64.6	65.0	23	50	108	KELLOGG AVE	7605	35	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116583	70.2	73.8	74.3	96	207	446	E ONTARIO AVE	34802	45	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116584	67.6	71.2	71.7	64	139	299	GRANT ST	27889	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116585	72.6	76.2	76.7	140	301	648	N MAIN ST	50898	40	0	93.6%	1.8%	4.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116587	39.0	42.7	43.1	1	2	4	GARRETSON AVE	291	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116601	67.0	70.6	71.1	59	127	274	E GRAND BLVD	18890	35	0	93.7%	2.4%	4.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116602	72.5	76.2	76.6	138	297	639	N MAIN ST	57424	40	0	95.2%	1.4%	3.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116605	64.4	68.0	68.4	39	85	183	CRESTA RD	10733	40	0	96.4%	1.6%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116624	66.4	70.0	70.4	53	115	248	PROMENADE AVE	16003	45	0	98.3%	1.0%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116625	68.3	71.9	72.4	72	155	333	MC KINLEY ST	23156	45	0	97.6%	1.3%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116635	64.3	67.9	68.3	39	84	180	E GRAND BLVD	16367	35	0	97.7%	1.1%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116636	58.8	62.4	62.8	17	36	77	E GRAND BLVD	5746	35	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116637	62.7	66.3	66.8	30	65	141	FULLERTON AVE	9612	35	0	96.4%	1.5%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116649	62.4	66.0	66.5	29	63	135	N JOY ST	7174	40	0	97.0%	1.3%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116650	61.2	64.8	65.3	24	52	112	N JOY ST	5683	40	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116651	59.7	63.3	63.7	19	41	89	GRANT ST	3240	40	0	95.8%	1.4%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116652	68.2	71.9	72.3	71	153	330	MAGNOLIA AVE	21684	45	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116653	47.5	51.2	51.6	3	6	14	GRANT ST	270	40	0	98.0%	1.0%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116654	68.4	72.0	72.4	72	156	336	MAGNOLIA AVE	22109	45	0	97.4%	1.1%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116658	53.0	56.6	57.0	7	15	32	E 6TH ST	2724	25	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116659	68.3	71.9	72.4	72	155	333	E GRAND BLVD	29278	35	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116660	68.6	72.2	72.6	75	161	348	E 6TH ST	24182	40	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116662	64.4	68.0	68.5	40	85	184	E PARKRIDGE AVE	8187	45	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116680	64.5	68.1	68.5	40	86	185	MAGNOLIA AVE	14345	40	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116681	69.8	73.4	73.8	90	194	418	E ONTARIO AVE	28506	45	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116682	58.1	61.8	62.2	15	33	70	GARRETSON AVE	3711	35	0	97.1%	1.3%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116690	64.3	67.9	68.3	39	83	179	MAGNOLIA AVE	13680	40	0	98.7%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116691	67.7	71.3	71.7	65	141	303	E GRAND BLVD	26169	35	0	95.4%	1.8%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116692	39.3	43.0	43.4	1	2	4	E 2ND ST	279	15	0	97.6%	1.2%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116695	63.6	67.2	67.7	35	75	162	N JOY ST	9379	40	0	97.0%	1.3%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116696	56.3	59.9	60.3	11	24	53	S BUENA VISTA AVE	3163	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116697	57.1	60.7	61.2	13	28	60	S BUENA VISTA AVE	3663	35	0	98.6%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116698	54.8	58.4	58.9	9	19	42	10TH ST	2200	30	0	97.0%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116708	56.7	60.3	60.8	12	26	56	S BUENA VISTA AVE	3372	35	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116709	55.1	58.7	59.1	9	20	44	W OLIVE ST	1703	35	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116712	56.8	60.4	60.9	12	27	57	N BUENA VISTA AVE	2885	35	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116713	65.9	69.5	70.0	50	107	231	RAILROAD ST	9314	40	0	90.2%	4.1%	5.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116717	64.9	68.5	68.9	42	91	197	W 6TH ST	17827	35	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116718	68.9	72.5	73.0	79	170	367	N LINCOLN AVE	27335	40	0	95.8%	1.3%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116719	65.4	69.0	69.4	46	98	212	W RINCON ST	9033	40	0	92.1%	3.0%	4.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116722	56.5	60.1	60.6	12	25	55	CORDOZA ST	3314	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116723	54.6	58.2	58.7	9	19	41	CITRON ST	1867	35	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116724	69.0	72.6	73.1	80	173	373	W FOOTHILL PKY	18550	45	0	93.9%	1.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116727	69.2	72.8	73.3	82	177	382	W ONTARIO AVE	24837	45	0	96.6%	1.3%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116729	69.8	73.4	73.9	91	195	421	N LINCOLN AVE	29944	40	0	94.6%	1.7%	3.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116730	66.0	69.6	70.1	51	109	235	RAILROAD ST	7981	40	0	87.0%	5.7%	7.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116731	62.0	65.6	66.0	27	59	126	S LINCOLN AVE	10852	35	0	98.4%	0.8%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116732	65.7	69.3	69.8	48	104	224	W 6TH ST	22638	35	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116734	72.0	75.6	76.1	127	273	588	RIVER RD	42998	45	0	95.6%	1.6%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116737	67.9	71.5	71.9	67	144	311	MAGNOLIA AVE	20301	45	0	97.7%	1.1%	1.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116738	67.7	71.3	71.7	65	140	301	MC KINLEY ST	17201	45	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116739	67.7	71.3	71.7	65	141	303	MC KINLEY ST	16733	45	0	96.2%	1.3%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116752	66.1	69.7	70.2	51	111	238	10TH ST	18337	35	0	95.6%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116756	67.1	70.7	71.1	59	128	275	S LINCOLN AVE	18986	40	0	96.3%	1.4%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116758	64.6	68.2	68.6	41	87	188	W 6TH ST	15643	35	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116759	66.8	70.4	70.9	57	123	265	S LINCOLN AVE	24035	35	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116761	67.8	71.4	71.9	66	143	309	S LINCOLN AVE	23113	40	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116762	67.5	71.1	71.5	63	137	294	S LINCOLN AVE	21454	40	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116763	67.2	70.8	71.3	61	131	283	W ONTARIO AVE	18389	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116764	64.2	67.8	68.2	38	82	177	S LINCOLN AVE	9216	45	0	98.3%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116768	47.1	50.7	51.1	3	6	13	W ONTARIO AVE	2817	15	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116769	64.9	68.5	68.9	42	91	197	VIA PACIFICA	13656	40	0	97.8%	0.8%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116774	66.1	69.7	70.2	51	110	238	S SMITH AVE	18058	35	0	95.5%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116775	62.5	66.2	66.6	30	64	138	BORDER AVE	11631	35	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116776	69.2	72.8	73.2	82	176	380	N SMITH AVE	19896	45	0	93.8%	2.6%	3.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116782	58.0	61.6	62.1	15	32	69	S LINCOLN AVE	2419	45	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116787	65.8	69.4	69.8	49	105	226	CORYDON ST	14543	40	0	96.2%	1.8%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116788	58.0	61.6	62.1	15	32	69	S LINCOLN AVE	2419	45	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116790	66.0	69.6	70.1	51	109	235	RAILROAD ST	7981	40	0	87.0%	5.7%	7.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116800	60.8	64.4	64.8	23	49	105	MC KINLEY ST	4706	45	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116804	69.0	72.6	73.1	80	172	371	W 6TH ST	37932	35	0	96.1%	1.4%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116805	63.5	67.1	67.5	34	74	159	N SMITH AVE	10142	40	0	97.8%	1.0%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116807	67.3	70.9	71.3	61	132	284	TEMESCAL CANYON RD	25860	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116808	66.0	69.6	70.1	50	109	234	TEMESCAL CANYON RD	21137	40	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116812	64.7	68.3	68.7	41	88	190	N SMITH AVE	11316	40	0	96.4%	1.5%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116813	66.7	70.3	70.7	56	121	260	N SMITH AVE	17704	40	0	96.3%	1.6%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116814	65.6	69.2	69.7	48	102	221	N MAPLE ST	11715	40	0	94.7%	1.9%	3.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116815	65.1	68.7	69.2	44	95	204	CORYDON ST	11725	40	0	95.5%	2.1%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

116818	59.6	63.2	63.6	19	40	87	INDIANA AVE	4704	40	0	98.8%	0.7%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116819	56.4	60.0	60.4	11	25	53	INDIANA AVE	2314	40	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116822	66.7	70.4	70.8	56	122	262	WEIRICK RD	23618	40	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116824	67.9	71.5	71.9	67	144	311	RAILROAD ST	10319	40	0	83.6%	7.3%	9.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116833	66.4	70.0	70.4	53	115	247	WEIRICK RD	23158	40	0	99.2%	0.3%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116841	71.6	75.2	75.6	118	255	549	MAGNOLIA AVE	46834	45	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116842	71.5	75.1	75.6	117	253	545	MAGNOLIA AVE	47271	45	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116844	67.8	71.4	71.8	66	143	307	MAGNOLIA AVE	19578	45	0	97.5%	1.2%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116845	71.8	75.4	75.8	122	263	568	MAGNOLIA AVE	50971	45	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116852	55.7	59.3	59.8	10	22	48	BORDER AVE	2707	35	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116853	57.2	60.8	61.2	13	28	60	BORDER AVE	3741	35	0	98.6%	0.8%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116857	67.0	70.6	71.1	59	127	274	W 6TH ST	20747	35	0	94.8%	1.8%	3.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116858	59.9	63.6	64.0	20	43	92	POMONA RINCON RD	3844	35	0	93.3%	3.2%	3.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116859	57.0	60.6	61.0	13	27	58	PASEO GRANDE	6793	25	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116862	48.2	51.8	52.2	3	7	15	W ONTARIO AVE	2976	15	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116875	63.8	67.4	67.9	36	78	167	TEMESCAL CANYON RD	13214	40	0	99.4%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116879	62.4	66.0	66.5	29	62	135	INDIANA AVE	8598	40	0	98.3%	0.9%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116906	66.3	69.9	70.3	52	113	243	E 6TH ST	12610	45	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116925	51.6	55.2	55.7	6	12	26	PASEO GRANDE	2696	25	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116926	52.8	56.4	56.9	7	14	31	PINECREST DR	5573	15	0	97.7%	0.9%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116943	65.7	69.3	69.7	48	103	222	MAGNOLIA AVE	17656	40	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116964	66.8	70.4	70.8	57	122	263	TEMESCAL CANYON RD	23242	40	0	98.6%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116965	66.2	69.8	70.3	52	113	242	TEMESCAL CANYON RD	20446	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116967	70.4	74.0	74.4	99	213	459	E ONTARIO AVE	33610	45	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
116968	54.4	58.0	58.4	8	18	39	KELLOGG AVE	1671	35	0	97.5%	1.3%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
116971	46.9	50.5	51.0	3	6	12	PASEO GRANDE	2293	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116973	65.3	68.9	69.4	45	98	211	TEMESCAL CANYON RD	17391	40	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116980	70.8	74.5	74.9	106	228	492	AUTO CENTER DR	12158	45	0	75.8%	8.4%	15.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116982	70.2	73.8	74.3	97	208	448	SERFAS CLUB DR	19237	45	0	89.9%	3.5%	6.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116986	64.3	67.9	68.4	39	84	181	SERFAS CLUB DR	24171	30	0	98.0%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116987	64.4	68.0	68.5	40	85	183	SERFAS CLUB DR	24674	30	0	98.0%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116990	70.7	74.3	74.7	103	222	477	GREEN RIVER RD	30742	45	0	95.5%	1.5%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116993	61.9	65.5	66.0	27	58	125	SERFAS CLUB DR	7552	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117020	62.8	66.5	66.9	31	67	144	E PARKRIDGE AVE	6216	45	0	97.0%	1.6%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117021	66.8	70.4	70.9	57	123	265	E PARKRIDGE AVE	14612	45	0	96.6%	1.6%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117034	63.3	66.9	67.3	33	72	154	FULLERTON AVE	8001	40	0	96.2%	1.6%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117062	70.5	74.1	74.5	100	216	466	GREEN RIVER RD	28842	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117063	66.3	69.9	70.3	52	113	244	PALISADES DR	10236	50	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117067	61.2	64.8	65.2	24	52	112	RIMPAU AVE	5432	45	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117081	50.4	54.1	54.5	5	10	21	E CHASE DR	819	35	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
117082	60.4	64.0	64.4	21	46	99	FULLERTON AVE	6168	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117083	70.5	74.1	74.6	101	217	468	GREEN RIVER RD	28958	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117129	71.4	75.0	75.5	116	249	537	E ONTARIO AVE	43008	45	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117130	70.7	74.4	74.8	104	225	484	E ONTARIO AVE	36268	45	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117211	72.1	75.7	76.1	128	277	596	GREEN RIVER RD	43799	45	0	95.8%	1.4%	2.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117225	70.7	74.3	74.8	104	224	483	E ONTARIO AVE	36066	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117226	61.8	65.4	65.8	26	57	122	FULLERTON AVE	7514	40	0	98.6%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117304	67.6	71.2	71.7	65	139	300	MAGNOLIA AVE	27303	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117361	62.5	66.1	66.5	29	63	136	RIMPAU AVE	7103	45	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117425	60.8	64.4	64.9	23	49	106	INDIAN TRUCK TRAIL	4947	40	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
117442	63.1	66.7	67.2	32	70	150	RIMPAU AVE	10757	40	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117443	63.7	67.3	67.8	36	77	165	RIMPAU AVE	9024	45	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
117452	57.2	60.8	61.2	13	28	60	INDIAN TRUCK TRAIL	2446	40	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
123990	64.7	68.3	68.7	41	88	190	PROMENADE AVE	10223	45	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124373	67.7	71.3	71.8	66	142	305	RAILROAD ST	7255	40	0	76.6%	8.8%	14.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124375	67.7	71.3	71.8	66	142	305	RAILROAD ST	7255	40	0	76.6%	8.8%	14.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124378	63.6	67.2	67.6	35	75	162	ORANGE HEIGHTS LN	8001	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124379	58.2	61.8	62.2	15	33	70	S MAIN ST	3527	40	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124381	53.5	57.1	57.5	7	16	34	SANTANA WAY	1403	35	0	97.9%	1.0%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124382	54.8	58.4	58.8	9	19	42	SANTANA WAY	1600	40	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124749	68.2	71.9	72.3	71	153	330	S MAIN ST	22130	45	0	97.7%	0.8%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124750	67.4	71.0	71.5	63	135	292	S MAIN ST	18200	45	0	97.6%	0.9%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124868	62.8	66.4	66.9	31	67	143	E HARRISON ST	9097	35	0	95.7%	1.9%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
124870	62.7	66.3	66.8	30	65	141	E HARRISON ST	8317	35	0	95.2%	2.0%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128240	69.7	73.3	73.7	88	191	410	MC KINLEY ST	26957	45	0	96.3%	1.5%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
128244	60.5	64.1	64.5	22	47	100		5775	30	0	94.5%	1.8%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128250	59.2	62.8	63.3	18	38	83		4789	30	0	94.9%	2.1%	3.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128270	70.4	74.0	74.5	99	214	461	GREEN RIVER RD	28933	45	0	95.4%	1.6%	3.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
128272	65.3	68.9	69.4	45	98	210		19402	30	0	95.3%	1.6%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
128277	53.4	57.0	57.4	7	16	34		1518	30	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131099	55.0	58.6	59.0	9	20	43	POMONA RD	1176	35	0	93.5%	2.6%	4.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131101	68.3	71.9	72.3	72	154	333	MAGNOLIA AVE	30437	40	0	97.8%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131102	6.5	10.1	10.6	0	0	0	LEESON LN	0	15	0	99.0%	0.7%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131103	50.3	53.9	54.3	5	10	21	LEESON LN	4011	15	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131104	63.7	67.3	67.7	35	76	163	PROMENADE AVE	8375	45	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131105	66.3	69.9	70.4	53	114	246	FULLERTON AVE	14995	45	0	98.0%	0.9%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131106	60.8	64.4	64.8	23	49	105	FULLERTON AVE	6260	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131107	54.8	58.4	58.9	9	20	42	E CHASE DR	2196	35	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
131111	67.6	71.2	71.7	64	139	299	KNABE RD	15349	50	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

131114	66.6	70.2	70.6	55	119	256	CAJALCO RD	25206	35	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
131253	62.8	66.4	66.8	31	66	143	DE PALMA RD	7687	40	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
133261	56.3	59.9	60.4	11	25	53	INDIANA AVE	2283	40	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141438	69.6	73.2	73.6	87	188	404	W FOOTHILL PKY	21948	45	0	94.5%	1.7%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141439	69.9	73.5	73.9	91	197	424	E FOOTHILL PKY	24957	45	0	95.2%	1.5%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141440	69.9	73.5	73.9	91	196	423	E FOOTHILL PKY	24813	45	0	95.1%	1.5%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141441	68.7	72.3	72.7	76	164	352	E FOOTHILL PKY	23690	40	0	95.0%	1.5%	3.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141442	69.6	73.2	73.6	87	188	404	W FOOTHILL PKY	21948	45	0	94.5%	1.7%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141443	63.8	67.4	67.9	36	78	167	S MAIN ST	12765	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141448	26.9	30.5	31.0	0	0	1	GARRETSON AVE	42	15	0	99.6%	0.3%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141450	55.3	59.0	59.4	10	21	46	SANTANA WAY	2050	35	0	97.4%	1.2%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141451	55.4	59.0	59.4	10	21	46	TABER ST	1492	40	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141452	57.1	60.7	61.1	13	28	60	RIMPAU AVE	2892	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141453	61.5	65.1	65.5	25	54	117	FULLERTON AVE	5729	45	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141454	68.4	72.0	72.5	73	157	339	E FOOTHILL PKY	21343	40	0	94.6%	1.7%	3.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141455	65.1	68.7	69.1	44	94	202	LINCOLN AVE	11289	45	0	98.3%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141456	65.1	68.7	69.1	44	94	202	LINCOLN AVE	11289	45	0	98.3%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141459	50.8	54.4	54.9	5	11	23	MOUNTAIN GATE DR	686	40	0	99.5%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141460	48.2	51.8	52.3	3	7	15	SANTANA WAY	513	35	0	99.0%	0.7%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141461	54.7	58.3	58.7	9	19	41	TABER ST	1607	40	0	99.2%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141469	56.7	60.3	60.7	12	26	56	W 8TH ST	1939	40	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141470	55.4	59.0	59.5	10	21	46	W 8TH ST	1737	40	0	98.4%	0.8%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141471	59.1	62.8	63.2	18	38	82	W 8TH ST	3666	40	0	97.7%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141472	58.9	62.5	63.0	17	37	79	W 8TH ST	3521	40	0	97.8%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141473	60.1	63.7	64.2	20	44	95	E 8TH ST	4250	40	0	97.1%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141474	60.2	63.8	64.2	21	44	96	E 8TH ST	4618	40	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141475	61.3	64.9	65.4	25	53	114	S LINCOLN AVE	9902	35	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141476	58.0	61.6	62.0	15	32	68	S BUENA VISTA AVE	4117	35	0	98.1%	1.0%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141477	62.4	66.0	66.5	29	63	135	W GRAND BLVD	9950	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
141478	41.5	45.1	45.6	1	3	5	S MERRILL ST	721	15	0	98.8%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
141479	38.4	42.0	42.4	1	2	3	S JOY ST	232	15	0	97.8%	1.1%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146162	69.1	72.7	73.2	81	175	377	RIVER RD	23322	45	0	96.2%	1.5%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146170	63.7	67.4	67.8	36	77	166	FULLERTON AVE	9189	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146171	61.0	64.6	65.1	23	50	109	KELLOGG AVE	8231	35	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146172	42.8	46.5	46.9	1	3	7	FORD ST	714	15	0	98.3%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
146180	64.8	68.4	68.9	42	91	196	E PARKRIDGE AVE	9363	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146183	71.3	74.9	75.4	114	246	531	N MAIN ST	41640	40	0	94.7%	1.4%	3.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146541	71.5	75.1	75.5	117	252	543	AUTO CENTER DR	16913	45	0	81.1%	6.5%	12.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
146542	53.5	57.2	57.6	7	16	35	WARDLOW RD	3169	15	0	94.6%	1.8%	3.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1633435	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2686876	70.1	73.7	74.2	95	204	440	RIVER RD	28969	45	0	95.9%	1.6%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1656388	66.8	70.4	70.9	57	123	265	CAJALCO RD	18285	45	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657463	69.6	73.2	73.7	88	189	408	MC KINLEY ST	27144	45	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657464	69.7	73.3	73.7	89	191	412	MC KINLEY ST	27137	45	0	96.3%	1.5%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
1657465	43.3	46.9	47.3	2	3	7		186	30	0	97.5%	1.4%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1657466	57.6	61.2	61.6	14	30	64		2869	30	0	94.1%	2.1%	3.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
1658202	82.6	86.2	86.7	644	1388	2990	RIVERSIDE FWY	138006	65	0	87.7%	2.7%	9.6%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
1658207	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2661041	81.0	84.6	85.1	504	1086	2341	TEMECULA VALLEY FWY	113135	65	0	90.6%	2.5%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661042	80.9	84.5	84.9	496	1068	2301	TEMECULA VALLEY FWY	110149	65	0	90.5%	2.5%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661043	81.0	84.6	85.1	507	1092	2352	TEMECULA VALLEY FWY	114802	65	0	90.7%	2.4%	6.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2661044	80.9	84.5	84.9	493	1063	2290	TEMECULA VALLEY FWY	109129	65	0	90.5%	2.5%	7.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2663865	69.8	73.4	73.8	90	194	417	E ONTARIO AVE	31985	45	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2663866	67.6	71.2	71.6	64	138	298	CAJALCO RD	22096	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2663949	72.5	76.2	76.6	138	297	639	N MAIN ST	57424	40	0	95.2%	1.4%	3.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2665250	70.8	74.4	74.9	106	228	491	RAILROAD ST	10653	45	0	71.3%	10.2%	18.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665251	70.6	74.2	74.6	102	219	472	RAILROAD ST	9176	45	0	67.8%	11.6%	20.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665252	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	RAILROAD ST	0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665253	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665254	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665255	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665586	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	BNSF	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2665918	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	91 EXPRESS LANES	53624	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665919	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	91 EXPRESS LANES	34015	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665920	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665926	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665928	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665930	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665932	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665934	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	12339	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665936	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	3375	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2665938	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	14528	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2665940	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	17671	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2667611	65.4	69.0	69.4	46	99	213		13463	30	0	92.0%	2.2%	5.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2667612	70.6	74.2	74.6	102	220	474	MAGNOLIA AVE	37907	45	0	97.6%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668085	69.0	72.6	73.1	80	173	373	E 6TH ST	23761	45	0	96.5%	1.4%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668086	62.5	66.1	66.5	29	63	136	SANTA ANA FWY	8903	35	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668088	62.8	66.4	66.8	31	66	143	SANTA ANA FWY	9658	35	0	96.5%	1.4%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668089	72.1	75.7	76.2	129	278	600	MAGNOLIA AVE	52690	45	0	97.5%	1.1%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32

2668096	57.4	61.0	61.5	13	29	62	SANTA ANA FWY	3736	35	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668101	63.9	67.5	68.0	37	79	170	E GRAND BLVD	14472	35	0	97.4%	1.2%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668227	51.7	55.4	55.8	6	12	26	I 10 HOV	199	65	0	97.5%	1.4%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668228	63.4	67.0	67.5	34	73	157		11360	30	0	94.5%	1.9%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668229	62.6	66.2	66.6	30	64	138		8615	30	0	93.7%	2.1%	4.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668231	31.7	35.3	35.8	0	1	1		13	30	0	97.7%	1.3%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668232	60.3	63.9	64.4	21	45	98		5585	30	0	94.5%	1.9%	3.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668233	70.4	74.0	74.4	99	213	459		26825	30	0	86.4%	2.8%	10.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668234	62.6	66.3	66.7	30	65	140		10670	30	0	95.0%	2.1%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668236	61.6	65.2	65.6	26	55	119		5374	30	0	91.6%	2.3%	6.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668237	66.9	70.5	70.9	57	124	267		20481	25	0	90.6%	2.2%	7.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668238	58.2	61.8	62.3	15	33	71		4971	30	0	96.9%	1.4%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687836	70.0	73.6	74.1	94	202	434	LINCOLN AVE	30793	40	0	94.4%	1.8%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668240	65.4	69.0	69.5	46	100	214		16163	30	0	93.9%	1.6%	4.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668241	62.4	66.0	66.4	29	62	134		8141	30	0	94.0%	1.6%	4.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687842	64.4	68.1	68.5	40	85	184	TEMESCAL CANYON RD	15392	40	0	99.4%	0.2%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668244	65.0	68.6	69.0	43	93	200		18545	30	0	95.5%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668245	60.0	63.6	64.1	20	43	93		3836	40	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2668246	62.3	65.9	66.3	29	62	133		7472	30	0	92.8%	2.5%	4.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668247	61.7	65.3	65.7	26	56	121		8382	30	0	95.1%	1.8%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668248	64.7	68.3	68.8	41	89	192		6028	30	0	80.8%	6.5%	12.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668249	65.2	68.8	69.3	45	96	208		8054	30	0	84.4%	5.3%	10.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668250	59.4	63.0	63.4	18	39	85		3815	30	0	92.8%	2.6%	4.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668251	61.6	65.3	65.7	26	56	120		2977	30	0	81.0%	6.3%	12.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668253	83.4	87.0	87.5	729	1570	3383	RIVERSIDE FWY	169405	65	0	88.3%	2.5%	9.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2668254	83.1	86.7	87.2	699	1507	3246	RIVERSIDE FWY	170686	65	0	89.9%	2.2%	7.8%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2668255	53.3	57.0	57.4	7	16	33		1518	30	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2668256	65.3	68.9	69.4	45	98	210		19402	30	0	95.3%	1.6%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669290	59.8	63.4	63.8	19	42	90		8602	30	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669292	65.1	68.7	69.2	44	95	205	TEMESCAL CANYON RD	15123	40	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669293	60.7	64.3	64.8	22	48	104	ORANGE-RIVERSIDE CORRIDOR	5834	40	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669294	65.0	68.6	69.1	43	94	202	TEMESCAL CANYON RD	17686	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669295	66.3	69.9	70.3	52	113	243	TEMESCAL CANYON RD	23619	40	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669296	68.6	72.2	72.6	75	161	346	KNABE RD	19565	50	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669297	61.8	65.4	65.8	26	57	122	ORANGE-RIVERSIDE CORRIDOR	11746	30	0	97.4%	0.8%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669298	59.5	63.1	63.6	19	40	87	ORANGE-RIVERSIDE CORRIDOR	7702	30	0	97.9%	0.7%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669299	67.6	71.2	71.7	64	139	299	TEMESCAL CANYON RD	27889	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669300	63.2	66.8	67.3	33	71	153		12577	30	0	95.6%	1.6%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669301	60.7	64.3	64.8	22	48	104		9145	30	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669302	62.1	65.7	66.1	27	59	128		11896	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669303	62.1	65.7	66.1	27	59	128		11896	30	0	97.1%	1.0%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669304	62.1	65.8	66.2	28	60	129		11544	30	0	96.7%	1.3%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669305	61.8	65.4	65.8	26	57	122		9819	30	0	96.1%	1.5%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669306	63.9	67.5	67.9	36	78	169		16102	30	0	96.4%	1.2%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669307	63.9	67.5	67.9	36	78	169		16102	30	0	96.4%	1.2%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669308	81.4	85.0	85.4	535	1152	2482	TEMECULA VALLEY FWY	115314	65	0	90.7%	2.4%	6.9%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
2669309	62.8	66.4	66.8	31	66	142		13534	30	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2669310	79.4	83.0	83.5	396	852	1836	ONTARIO FWY	83639	65	0	92.9%	1.9%	5.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2669311	61.4	65.1	65.5	25	54	116		8396	30	0	95.7%	1.5%	2.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2669312	59.9	63.5	63.9	20	42	91		6917	30	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671793	80.8	84.4	84.9	491	1058	2279	RIVERSIDE FWY	106709	65	0	90.7%	2.2%	7.1%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
2671794	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	17671	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671795	81.3	84.9	85.3	527	1136	2448	RIVERSIDE FWY	111046	65	0	89.9%	2.1%	8.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2671796	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	14528	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2671797	81.4	85.0	85.5	537	1157	2492	RIVERSIDE FWY	125154	65	0	91.9%	1.9%	6.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2671798	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	3375	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2671799	82.4	86.0	86.4	623	1342	2891	RIVERSIDE FWY	129337	65	0	87.5%	2.5%	10.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2671801	82.5	86.1	86.6	637	1373	2958	RIVERSIDE FWY	147210	65	0	89.8%	2.2%	8.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2687857	59.4	63.0	63.5	18	39	85	W 2ND ST	5103	30	0	95.4%	1.6%	3.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2671803	82.9	86.5	86.9	670	1442	3108	RIVERSIDE FWY	144847	65	0	87.6%	2.5%	9.9%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2687852	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687850	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687860	62.2	65.8	66.3	28	61	131	E 3RD ST	8164	30	0	94.0%	1.9%	4.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674856	68.6	72.2	72.6	75	161	346	W 6TH ST	34931	35	0	96.2%	1.4%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674857	62.4	66.0	66.4	29	62	134	PLZ DE NOCHE	10307	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674858	57.2	60.8	61.3	13	28	61	SAPPHIRE LN	3412	35	0	97.8%	1.3%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674859	61.2	64.8	65.2	24	52	111	VIA DEL RIO	7947	35	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674860	61.2	64.8	65.2	24	52	111	VIA DEL RIO	7947	35	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674861	65.6	69.2	69.6	47	102	219	S LINCOLN AVE	19137	35	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674862	54.2	57.8	58.2	8	18	38	D ST	1786	35	0	98.2%	1.0%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674863	54.2	57.8	58.2	8	18	38	D ST	1786	35	0	98.2%	1.0%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674864	65.5	69.1	69.5	46	100	215	W 6TH ST	20854	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674865	48.8	52.4	52.9	4	8	17	S SHERMAN AVE	608	35	0	99.3%	0.5%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674866	59.0	62.6	63.0	17	37	80	S SHERMAN AVE	5823	35	0	98.8%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674867	66.1	69.7	70.2	51	111	238	10TH ST	18337	35	0	95.6%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674868	59.0	62.6	63.0	17	37	80	S SHERMAN AVE	5823	35	0	98.8%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674869	65.8	69.5	69.9	49	106	228	W 6TH ST	22487	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674875	62.4	66.0	66.5	29	63	135	W GRAND BLVD	10877	35	0	97.8%	1.0%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674876	57.0	60.6	61.1	13	27	59	W 2ND ST	3736	30	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2674877	58.4	62.0	62.4	16	34	73	W 8TH ST	3250	40	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674878	52.6	56.2	56.7	6	14	30	S BELLE AVE	1668	30	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674879	56.8	60.4	60.9	12	27	57	W 6TH ST	6389	25	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674880	52.9	56.5	56.9	7	15	31	S BELLE AVE	1792	30	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674882	67.8	71.4	71.9	67	144	309	S MAIN ST	19776	45	0	97.6%	0.9%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674884	57.9	61.5	61.9	14	31	67	W 8TH ST	2936	40	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674886	44.8	48.4	48.9	2	4	9	W 10TH ST	756	15	0	97.1%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674887	47.3	50.9	51.3	3	6	13	S BELLE AVE	501	30	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674888	70.9	74.5	74.9	107	230	495	S MAIN ST	35998	45	0	96.7%	1.2%	2.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674890	62.9	66.5	66.9	31	67	144	E 3RD ST	10212	30	0	94.7%	1.7%	3.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674891	67.6	71.2	71.6	64	138	297	E GRAND BLVD	25449	35	0	95.4%	1.8%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674892	56.8	60.4	60.8	12	26	57	E 3RD ST	5389	15	0	93.3%	2.1%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674893	61.1	64.7	65.2	24	51	111	W RINCON ST	6624	35	0	96.3%	1.7%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674900	62.8	66.4	66.8	31	66	142	N JOY ST	8385	40	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674902	61.2	64.8	65.2	24	52	111	N JOY ST	5633	40	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674903	58.8	62.4	62.9	17	36	78	E RINCON ST	3151	35	0	94.5%	2.2%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674905	55.0	58.6	59.1	9	20	43	CIRCLE CITY DR	1594	35	0	96.4%	1.3%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674906	60.0	63.6	64.0	20	43	93	RIMPAU AVE	5680	35	0	97.3%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674907	60.0	63.6	64.0	20	43	93	RIMPAU AVE	5680	35	0	97.3%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674908	59.7	63.3	63.7	19	41	89	RIMPAU AVE	5198	35	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674909	62.3	66.0	66.4	29	62	133	RIMPAU AVE	12292	35	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674910	56.6	60.2	60.7	12	26	55	OLD TEMESCAL RD	1680	45	0	98.4%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674911	60.0	63.7	64.1	20	43	94	CALIFORNIA AVE	4758	40	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674912	70.7	74.3	74.8	104	225	484	E ONTARIO AVE	36363	45	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674913	57.0	60.6	61.1	13	27	59	CALIFORNIA AVE	2657	40	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674914	60.7	64.3	64.7	22	48	103	CALIFORNIA AVE	4463	45	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2674915	59.0	62.6	63.0	17	37	80	CALIFORNIA AVE	8018	30	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2674916	71.7	75.4	75.8	122	262	565	E ONTARIO AVE	47054	45	0	97.3%	1.1%	1.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2674918	67.5	71.1	71.5	63	136	293	TEMESCAL CANYON RD	27386	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2675881	63.9	67.5	68.0	37	79	170	MAGNOLIA AVE	11762	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2675882	62.5	66.1	66.5	29	63	136	MAGNOLIA AVE	9277	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2675966	64.4	68.0	68.4	39	84	182	MAGNOLIA AVE	14493	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676022	67.7	71.3	71.7	65	140	302	CAJALCO RD	19897	45	0	98.3%	0.6%	1.1%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
2676025	55.4	59.0	59.4	10	21	46	BORDER AVE	2476	35	0	98.6%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676162	61.5	65.1	65.6	25	54	117	W RINCON ST	5519	40	0	96.3%	1.7%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2676163	61.6	65.2	65.6	26	55	119	S MAIN ST	7459	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676362	70.0	73.6	74.1	93	201	433	E FOOTHILL PKY	26521	45	0	95.5%	1.4%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676363	63.7	67.3	67.8	35	76	164	E CHASE DR	9076	45	0	99.0%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676364	68.6	72.2	72.6	75	161	347	E FOOTHILL PKY	23027	40	0	95.0%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2676365	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	W CHASE DR	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687896	60.3	64.0	64.4	21	46	98	E 8TH ST	4818	40	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687886	60.0	63.6	64.0	20	43	93	W 8TH ST	4685	40	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687881	56.6	60.2	60.6	12	26	55		3600	30	0	97.1%	1.4%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687876	56.6	60.2	60.7	12	26	56	E 3RD ST	5425	15	0	93.5%	2.0%	4.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687872	40.0	43.7	44.1	1	2	4	E 2ND ST	296	15	0	97.3%	1.4%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687877	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		1090	0	0	96.1%	1.4%	2.5%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2687871	39.3	43.0	43.4	1	2	4	E 2ND ST	279	15	0	97.6%	1.2%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687893	60.3	63.9	64.4	21	45	98	E 8TH ST	4688	40	0	97.5%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687862	68.4	72.0	72.4	72	156	336	S MAIN ST	22620	45	0	97.7%	0.8%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677372	65.9	69.5	69.9	49	106	229		18593	30	0	93.9%	2.0%	4.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677373	62.1	65.8	66.2	28	60	129		9433	30	0	95.4%	1.5%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677374	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	RIVERSIDE FWY	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687849	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687853	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677378	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677379	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687866	51.2	54.8	55.3	5	11	24		960	30	0	96.9%	1.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687845	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687847	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687843	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687835	65.9	69.5	69.9	50	107	230		21152	30	0	94.9%	1.7%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687831	59.2	62.8	63.2	18	38	82	PASEO GRANDE	11313	25	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687833	69.4	73.0	73.4	85	182	393	W 6TH ST	39054	35	0	95.7%	1.6%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2677727	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	3478	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677728	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	8787	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677729	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	TEMECULA VALLEY FWY	0	65	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677730	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677731	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	3478	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677732	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	8787	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677733	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	8787	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677734	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	3478	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677735	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	TEMECULA VALLEY FWY	0	65	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677736	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	8787	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677737	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	2341	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677738	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		1136	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677739	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	1	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677740	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		6078	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677741	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	2708	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677742	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		5102	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2677743	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	30	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677744	57.2	60.8	61.2	13	28	61		2668	30	0	94.6%	1.6%	3.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677745	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		9327	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677746	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	50	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677747	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		15405	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677748	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	11668	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677749	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		5102	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677750	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		9327	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677751	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	11668	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677752	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	7810	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677753	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	7014	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677754	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	5250	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677755	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	16917	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677756	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	14824	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677757	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	14824	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677758	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	16917	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677759	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	TEMECULA VALLEY FWY	0	65	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677760	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	16917	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677761	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	11419	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677762	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	3405	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677763	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	14824	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677764	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	16917	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677765	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6243	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677766	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10675	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677767	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	11838	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677768	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	2987	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677769	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	422	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677770	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	12260	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677771	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	3	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677772	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10678	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677773	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10678	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677774	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	12260	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677775	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10678	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677776	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	TEMECULA VALLEY FWY	0	65	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677777	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677778	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	12260	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677779	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10678	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677780	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	12260	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677781	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	10678	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677803	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6149	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677804	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4528	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677805	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6474	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2677806	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	5786	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677807	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	104	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677808	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	0	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2677812	70.4	74.1	74.5	100	215	463	W FOOTHILL PKY	28781	45	0	95.2%	1.5%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2677815	66.6	70.3	70.7	56	120	258	EAGLE GLEN PKWY	17810	45	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681754	58.6	62.2	62.7	16	35	75	TEMESCAL CANYON RD	3676	40	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681753	62.7	66.3	66.7	30	65	141	EAGLE GLEN PKWY	6781	45	0	98.4%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681781	69.2	72.8	73.2	82	176	380	N SMITH AVE	19896	45	0	93.8%	2.6%	3.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678918	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678919	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678920	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678921	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678922	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678923	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678924	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678925	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678926	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678927	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678928	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2678929	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2678930	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	TEMECULA VALLEY FWY	0	65	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678931	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2678932	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	4529	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2678933	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	TEMECULA VALLEY FWY	6578	0	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	0	Soft	50	0.5	#N/A
2680979	82.5	86.1	86.6	636	1369	2950	RIVERSIDE FWY	134433	65	0	88.4%	2.4%	9.2%	74.3%	11.3%	14.4%	6	Soft	50	0.5	68
2680982	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	9613	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680983	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	4512	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2680984	80.9	84.5	84.9	492	1061	2285	RIVERSIDE FWY	105391	65	0	91.0%	2.0%	7.0%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2680985	79.4	83.0	83.5	396	852	1836	ONTARIO FWY	83639	65	0	92.9%	1.9%	5.2%	74.3%	11.3%	14.4%	5	Soft	50	0.5	56
2680986	79.1	82.7	83.1	376	810	1745	ONTARIO FWY	77976	65	0	92.4%	2.1%	5.5%	74.3%	11.3%	14.4%	4	Soft	50	0.5	44
2681049	80.9	84.5	84.9	496	1068	2301	TEMECULA VALLEY FWY	108653	65	0	90.2%	2.5%	7.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681214	60.4	64.0	64.4	21	46	99		8723	30	0	97.6%	0.8%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681297	58.5	62.1	62.6	16	35	74	E GRAND BLVD	5481	35	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681514	66.9	70.5	70.9	58	124	268	HIDDEN VALLEY PKY	13894	45	0	95.8%	2.0%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681594	57.8	61.5	61.9	14	31	67	PASEO GRANDE	7157	25	0	97.5%	1.1%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681595	60.7	64.3	64.8	22	48	104		10105	30	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681596	61.6	65.2	65.6	26	55	119		11703	30	0	97.5%	1.0%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2681597	68.8	72.4	72.9	78	168	361	W 6TH ST	36415	35	0	96.1%	1.4%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681599	61.5	65.1	65.5	25	54	117		11196	30	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681600	48.3	52.0	52.4	3	7	16	W ONTARIO AVE	2682	15	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681601	49.4	53.0	53.5	4	9	18		1122	15	0	93.5%	2.6%	3.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681602	59.3	62.9	63.4	18	39	84	BORDER AVE	6392	35	0	98.8%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681603	59.9	63.5	63.9	20	42	91		5497	35	0	97.3%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681605	52.5	56.1	56.5	6	14	29		2043	30	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681606	46.3	49.9	50.3	2	5	11	W ONTARIO AVE	2149	15	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681607	57.7	61.3	61.7	14	30	65		3682	35	0	97.7%	1.2%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681608	71.0	74.6	75.0	108	233	501	GREEN RIVER RD	33460	45	0	95.6%	1.5%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681609	70.6	74.2	74.7	102	220	474	GREEN RIVER RD	29814	45	0	95.2%	1.6%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681610	59.9	63.5	63.9	20	42	91		4610	40	0	98.3%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681611	45.5	49.1	49.5	2	5	10		523	15	0	94.3%	2.4%	3.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681612	49.7	53.3	53.8	4	9	19		684	30	0	96.5%	1.8%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681613	55.0	58.6	59.1	9	20	43		2463	30	0	97.0%	1.4%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681614	48.1	51.7	52.1	3	7	15		1670	15	0	97.2%	1.2%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681615	70.6	74.2	74.7	102	221	476	GREEN RIVER RD	30448	45	0	95.4%	1.5%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681616	46.5	50.1	50.6	3	5	12		859	25	0	99.4%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681617	70.2	73.8	74.3	96	208	447	W FOOTHILL PKY	27049	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681618	57.0	60.6	61.0	13	27	58		3487	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681619	50.6	54.2	54.6	5	10	22	W ONTARIO AVE	6415	15	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681620	56.7	60.3	60.8	12	26	56		3643	35	0	99.1%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681621	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681623	67.2	70.8	71.3	61	131	283	W ONTARIO AVE	18389	45	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681624	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681625	70.2	73.8	74.3	97	208	448	W FOOTHILL PKY	27180	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681628	57.3	60.9	61.3	13	28	61		2156	45	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681629	63.0	66.6	67.0	32	68	147		9604	40	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681630	63.0	66.7	67.1	32	69	149		7200	45	0	98.3%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681631	61.2	64.8	65.2	24	52	112		5112	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681632	62.2	65.8	66.3	28	61	131		7849	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681633	59.5	63.2	63.6	19	40	87	RIMPAU AVE	5144	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681634	56.1	59.7	60.1	11	24	51		2305	40	0	99.5%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681635	58.1	61.7	62.1	15	32	69		2573	45	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681636	56.6	60.2	60.6	12	25	55		3780	35	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681637	61.4	65.0	65.4	25	53	115		9510	35	0	98.6%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681638	49.0	52.6	53.0	4	8	17		4527	15	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681640	56.0	59.6	60.0	11	23	50		2288	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681641	61.3	64.9	65.3	24	53	113		7678	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681642	61.1	64.7	65.1	24	51	110		5883	40	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681643	56.5	60.2	60.6	12	25	55		2549	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681644	58.2	61.8	62.2	15	33	70		3480	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681645	43.9	47.5	48.0	2	4	8		1176	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681647	72.1	75.7	76.1	128	277	596	GREEN RIVER RD	43799	45	0	95.8%	1.4%	2.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681648	70.0	73.6	74.1	93	201	433	E FOOTHILL PKY	26521	45	0	95.5%	1.4%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681649	66.3	69.9	70.3	52	113	244	PALISADES DR	10236	50	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681650	63.7	67.3	67.7	35	76	164	S LINCOLN AVE	8152	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681651	61.3	64.9	65.4	25	53	114		6190	40	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681652	61.4	65.0	65.4	25	53	115		6256	40	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681653	50.3	53.9	54.3	5	10	21		891	35	0	99.6%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681654	61.6	65.2	65.7	26	55	119		6768	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681655	57.5	61.1	61.5	14	29	63		2925	40	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681656	49.5	53.1	53.5	4	9	19		790	30	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681657	56.1	59.7	60.1	11	24	51		2944	35	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681658	42.6	46.2	46.6	1	3	6		244	30	0	99.8%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681659	52.3	55.9	56.4	6	13	29		1753	30	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681660	65.3	68.9	69.4	45	98	211	VIA PACIFICA	15339	40	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681661	58.8	62.4	62.9	17	36	78		4189	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681662	70.8	74.4	74.8	105	227	488	MAGNOLIA AVE	39453	45	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681663	64.5	68.1	68.5	40	86	185	E 6TH ST	8414	45	0	96.7%	1.3%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681664	62.7	66.3	66.8	31	66	142		6384	45	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681665	63.6	67.2	67.6	35	75	162		7850	45	0	97.9%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681666	64.2	67.9	68.3	38	83	179	E 6TH ST	7352	45	0	95.9%	1.5%	2.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681667	61.4	65.0	65.4	25	53	115		4809	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681668	69.0	72.6	73.1	80	172	371	E 6TH ST	20781	45	0	95.1%	1.9%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681669	62.6	66.2	66.7	30	65	139		5452	45	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681670	66.0	69.6	70.0	50	108	233	FULLERTON AVE	13149	45	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681671	60.6	64.2	64.6	22	47	101		3820	45	0	97.7%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681672	66.7	70.3	70.7	56	121	260	RIMPAU AVE	28315	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681673	59.2	62.8	63.3	18	38	82		3688	40	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681674	64.0	67.6	68.0	37	80	172	RIMPAU AVE	16227	35	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681675	63.3	66.9	67.4	33	72	155		9474	40	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681676	58.9	62.5	63.0	17	37	79		5963	30	0	97.2%	1.0%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681677	63.5	67.1	67.6	34	74	160		10056	40	0	97.7%	1.0%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681678	71.3	74.9	75.3	113	243	524	E ONTARIO AVE	41594	45	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681681	58.0	61.6	62.0	15	32	68		3014	40	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681682	67.2	70.8	71.3	61	131	282	CAJALCO RD	18826	45	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681683	70.5	74.2	74.6	101	218	470	EL CERRITO RD	32062	45	0	96.3%	1.2%	2.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681684	63.8	67.4	67.8	36	77	166		11466	40	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2681685	64.2	67.8	68.2	38	82	176		12670	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681686	44.5	48.1	48.5	2	4	9		1344	15	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681687	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681690	61.0	64.6	65.0	23	50	108	W RINCON ST	4105	40	0	94.8%	2.1%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681691	70.1	73.7	74.2	95	205	441	RIVER RD	29195	45	0	95.9%	1.6%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681692	65.0	68.6	69.1	43	93	201		8222	40	0	91.9%	3.0%	5.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681693	65.0	68.6	69.1	43	93	201	RAILROAD ST	8319	40	0	91.5%	3.9%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681696	56.9	60.5	60.9	12	27	58	N COTA ST	1929	40	0	96.6%	1.5%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681698	62.7	66.3	66.8	30	66	141	E PARKRIDGE AVE	6138	45	0	97.1%	1.6%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681699	67.2	70.8	71.3	61	131	282	YUMA DR	17621	45	0	97.4%	1.4%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681700	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681706	69.2	72.8	73.3	82	178	383	N LINCOLN AVE	29046	40	0	95.8%	1.3%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681707	61.0	64.6	65.1	24	51	109	N COTA ST	4561	40	0	95.5%	2.0%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681708	57.8	61.4	61.8	14	31	66		1380	40	0	89.7%	4.3%	6.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681709	37.6	41.2	41.6	1	1	3	W 2ND ST	149	15	0	96.7%	1.8%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681710	56.9	60.5	60.9	12	27	58		3765	30	0	97.0%	1.4%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681711	56.6	60.2	60.6	12	26	55		3600	30	0	97.1%	1.4%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681712	57.3	60.9	61.3	13	28	61		4012	30	0	96.8%	1.4%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681713	47.7	51.3	51.8	3	7	14		636	30	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681714	56.8	60.4	60.8	12	26	57	E GRAND BLVD	3664	35	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681715	46.5	50.1	50.6	3	5	12	E 10TH ST	1258	15	0	97.6%	0.9%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681716	46.4	50.0	50.5	2	5	12		442	30	0	98.4%	0.9%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681717	60.2	63.8	64.2	21	44	95	E 8TH ST	4511	40	0	97.5%	1.0%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681718	51.5	55.1	55.6	5	12	25		1205	30	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681719	52.5	56.1	56.5	6	14	29	E 6TH ST	2461	25	0	98.2%	0.8%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681720	53.2	56.8	57.2	7	15	33		1703	30	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681721	61.0	64.7	65.1	24	51	109	E 3RD ST	5825	30	0	93.4%	2.1%	4.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681722	55.9	59.5	60.0	11	23	50	S VICTORIA AVE	2834	30	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681723	60.1	63.7	64.1	20	44	94	E OLIVE ST	5821	35	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681724	36.9	40.5	40.9	1	1	3		170	15	0	98.0%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681725	68.5	72.1	72.5	74	158	341	E GRAND BLVD	29687	35	0	94.9%	1.9%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681727	64.7	68.3	68.7	41	88	190	PROMENADE AVE	10223	45	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681729	66.8	70.4	70.8	57	122	262	PROMENADE AVE	18055	45	0	98.6%	0.9%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681730	48.6	52.2	52.6	3	8	16		1459	15	0	95.6%	2.3%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681731	66.6	70.2	70.6	55	118	255	YUMA DR	15007	45	0	97.3%	1.5%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681732	59.0	62.6	63.0	17	37	80		2796	45	0	97.9%	1.1%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681733	68.0	71.6	72.0	68	147	316	YUMA DR	21516	45	0	97.7%	1.3%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681734	65.8	69.4	69.8	49	105	225		13506	45	0	98.1%	1.1%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681735	62.6	66.2	66.7	30	65	139		11675	35	0	97.8%	1.2%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681736	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	40	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681737	68.4	72.0	72.5	73	157	339	MC KINLEY ST	21787	45	0	96.9%	1.6%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681739	64.3	67.9	68.4	39	84	181	E 6TH ST	7774	45	0	96.3%	1.5%	2.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681740	62.6	66.2	66.7	30	64	139		7629	40	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681741	64.7	68.3	68.8	41	89	192	PROMENADE AVE	10664	45	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681742	70.0	73.6	74.1	93	201	433	MC KINLEY ST	27462	45	0	95.7%	1.5%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681743	63.3	66.9	67.3	33	72	154		6781	45	0	97.1%	1.3%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681744	64.9	68.5	68.9	42	91	196		8330	45	0	95.6%	1.7%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681745	64.5	68.1	68.5	40	86	185		11788	40	0	97.3%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681746	66.0	69.6	70.0	50	108	232	E 6TH ST	11375	45	0	96.4%	1.4%	2.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681748	63.0	66.6	67.0	32	68	147		6578	45	0	97.5%	1.2%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681750	59.0	62.6	63.1	17	37	80	POMONA RD	3933	35	0	96.1%	1.6%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681751	18.4	22.0	22.5	0	0	0		0	35	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681752	61.0	64.6	65.1	23	50	109		5963	40	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687844	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	SR 91 HOV	27745	65	0	100.0%	0.0%	0.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681756	56.9	60.5	60.9	12	27	58	TEMESCAL CANYON RD	2807	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681757	63.4	67.0	67.4	34	73	157	DE PALMA RD	5318	50	0	97.0%	1.3%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681758	66.2	69.8	70.2	52	111	240		11996	50	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681760	54.8	58.4	58.8	9	19	42	SANTANA WAY	1601	40	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681764	68.7	72.3	72.7	76	163	352	MAGNOLIA AVE	23612	45	0	97.4%	1.2%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681766	66.4	70.0	70.5	54	115	249	PROMENADE AVE	15272	45	0	97.9%	1.2%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681767	57.9	61.5	61.9	14	31	67	TABER ST	3110	40	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681768	50.2	53.8	54.2	4	10	21		940	30	0	98.1%	0.8%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681769	56.6	60.2	60.7	12	26	55	OLD TEMESCAL RD	1680	45	0	98.4%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681770	62.3	66.0	66.4	29	62	133	RIMPAU AVE	12292	35	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681772	55.9	59.5	60.0	11	23	50	MOUNTAIN GATE DR	2267	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681773	53.5	57.1	57.6	7	16	34		1286	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681774	62.3	65.9	66.3	28	61	132	W GRAND BLVD	9940	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2681775	48.2	51.8	52.2	3	7	15	S BELLE AVE	747	30	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681776	55.3	58.9	59.4	10	21	45	W OLIVE ST	2540	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2681777	41.8	45.4	45.8	1	3	6	S BELLE AVE	194	30	0	99.6%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684667	63.4	67.0	67.4	34	72	156	TEMESCAL CANYON RD	11221	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684681	44.1	47.8	48.2	2	4	8		533	15	0	96.1%	1.8%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684794	71.0	74.6	75.0	108	233	501	GREEN RIVER RD	33460	45	0	95.6%	1.5%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684796	70.5	74.1	74.6	101	218	469	GREEN RIVER RD	29235	45	0	95.2%	1.6%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684798	71.0	74.6	75.0	108	234	503	GREEN RIVER RD	34214	45	0	95.8%	1.4%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684800	70.6	74.2	74.6	102	220	474	GREEN RIVER RD	30157	45	0	95.4%	1.5%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684802	46.3	49.9	50.3	2	5	11	W ONTARIO AVE	2149	15	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684804	55.9	59.5	60.0	11	23	50		1815	40	0	98.2%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684806	45.8	49.5	49.9	2	5	11		722	15	0	95.7%	1.8%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2684808	41.3	44.9	45.3	1	2	5		656	15	0	99.0%	0.3%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684811	70.4	74.0	74.5	99	214	461	GREEN RIVER RD	28933	45	0	95.4%	1.6%	3.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2684813	53.9	57.5	57.9	8	17	36	PINECREST DR	7524	15	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684815	66.3	69.9	70.3	52	113	244	PALISADES DR	10236	50	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684817	72.2	75.8	76.2	130	279	601	GREEN RIVER RD	44695	45	0	95.9%	1.4%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2684820	64.2	67.8	68.3	38	83	178	SERFAS CLUB DR	23435	30	0	98.0%	0.9%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684822	63.2	66.9	67.3	33	71	153	N SMITH AVE	8559	40	0	96.7%	1.6%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684824	55.0	58.6	59.0	9	20	43	POMONA RD	1173	35	0	93.5%	2.6%	4.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684826	67.9	71.5	71.9	67	144	311	RAILROAD ST	10319	40	0	83.6%	7.3%	9.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684830	63.1	66.7	67.1	32	70	150	W RINCON ST	7751	40	0	96.3%	1.5%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684832	69.8	73.4	73.9	91	195	421	N LINCOLN AVE	29944	40	0	94.6%	1.7%	3.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684834	60.5	64.1	64.5	22	46	100	POMONA RINCON RD	4590	35	0	94.0%	2.8%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684836	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	WARDLOW RD	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684839	38.4	42.0	42.4	1	2	3		93	30	0	99.8%	0.1%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684843	65.3	68.9	69.3	45	97	209	CORYDON ST	12488	40	0	95.8%	2.0%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684845	56.7	60.3	60.8	12	26	56		3643	35	0	99.1%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684847	70.3	73.9	74.3	97	209	451	W FOOTHILL PKY	27656	45	0	95.2%	1.5%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684849	68.8	72.4	72.8	77	166	358	W 6TH ST	35725	35	0	96.0%	1.5%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684851	59.2	62.8	63.3	18	38	83		4316	35	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684853	61.5	65.1	65.5	25	54	117	VIA DEL RIO	8792	35	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684855	61.2	64.8	65.2	24	52	111	VIA DEL RIO	7947	35	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684857	55.4	59.0	59.4	10	21	46	BORDER AVE	2476	35	0	98.6%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684859	67.8	71.4	71.9	66	143	309	S LINCOLN AVE	23113	40	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684861	65.9	69.5	70.0	50	107	231	VIA PACIFICA	17959	40	0	98.1%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684863	66.1	69.7	70.2	51	111	238	10TH ST	18337	35	0	95.6%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684865	50.6	54.2	54.6	5	10	22	W ONTARIO AVE	6415	15	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684867	55.2	58.8	59.2	10	21	44	BORDER AVE	2321	35	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684869	67.4	71.1	71.5	63	136	292	W ONTARIO AVE	19544	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684871	66.1	69.7	70.2	51	110	238	S SMITH AVE	18058	35	0	95.5%	1.6%	2.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684873	64.5	68.2	68.6	40	87	187	W 6TH ST	16029	35	0	97.2%	1.2%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684875	63.4	67.0	67.5	34	73	157	N SMITH AVE	9935	40	0	97.7%	1.1%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684877	54.2	57.8	58.2	8	18	38	D ST	1786	35	0	98.2%	1.0%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684880	67.3	70.9	71.4	62	133	286	TEMESCAL CANYON RD	29463	40	0	99.3%	0.3%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684884	70.2	73.8	74.3	96	208	447	W FOOTHILL PKY	27049	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684887	56.8	60.4	60.9	12	27	57	EAGLE GLEN PKWY	1844	45	0	99.0%	0.3%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684890	66.7	70.4	70.8	56	122	262	WEIRICK RD	23618	40	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684892	63.7	67.3	67.7	35	76	164	S LINCOLN AVE	8152	45	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684895	58.0	61.6	62.1	15	32	69	S LINCOLN AVE	2419	45	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684897	69.0	72.7	73.1	80	173	373	W FOOTHILL PKY	18658	45	0	93.9%	1.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684899	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	25	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684902	63.1	66.7	67.2	32	70	151	ORANGE HEIGHTS LN	7136	45	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684904	50.8	54.4	54.9	5	11	23	MOUNTAIN GATE DR	686	40	0	99.5%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684906	52.3	55.9	56.4	6	13	29	10TH ST	1823	30	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684908	55.7	59.3	59.8	10	22	48	W 8TH ST	1821	40	0	98.3%	0.9%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684910	64.9	68.5	68.9	42	91	197	W 6TH ST	17827	35	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684912	56.8	60.4	60.8	12	26	57	W 2ND ST	3710	30	0	97.2%	1.2%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684917	54.8	58.4	58.9	9	19	42	10TH ST	2200	30	0	97.0%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684919	65.2	68.8	69.2	44	96	206	S MAIN ST	15520	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684921	54.1	57.7	58.1	8	17	38	TAYLOR AVE	2075	35	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684923	57.6	61.2	61.6	14	30	64	CORDOZA ST	4040	35	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684937	67.7	71.3	71.8	66	142	305	RIVER RD	19231	45	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684939	69.2	72.8	73.3	82	178	383	N LINCOLN AVE	29046	40	0	95.8%	1.3%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684941	70.1	73.7	74.1	94	203	438	RIVER RD	28733	45	0	95.9%	1.6%	2.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684943	69.0	72.6	73.0	79	171	369	N LINCOLN AVE	26475	40	0	95.5%	1.4%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684948	55.1	58.7	59.1	9	20	44	W OLIVE ST	1703	35	0	96.9%	1.1%	2.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684950	62.1	65.7	66.1	28	59	128	W GRAND BLVD	9403	35	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684952	55.5	59.1	59.6	10	22	47	W OLIVE ST	2529	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684954	57.4	61.0	61.4	13	29	62	S BUENA VISTA AVE	3886	35	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684956	55.2	58.8	59.2	10	21	44	TAYLOR AVE	2501	35	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684958	65.8	69.4	69.9	49	106	228	S MAIN ST	17853	40	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684960	62.3	65.9	66.3	28	61	132	W GRAND BLVD	9940	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684962	69.9	73.5	73.9	91	197	424	W ONTARIO AVE	29974	45	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2684964	69.3	72.9	73.4	84	181	389	W ONTARIO AVE	25369	45	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2684968	55.9	59.5	60.0	11	23	50	MOUNTAIN GATE DR	2267	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684970	69.7	73.3	73.7	89	191	412	E FOOTHILL PKY	23696	45	0	95.0%	1.5%	3.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684972	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		611	0	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2684973	65.0	68.6	69.0	43	93	200	MAGNOLIA AVE	16491	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684975	62.4	66.0	66.5	29	63	135	MAGNOLIA AVE	9155	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2684978	69.6	73.2	73.6	87	188	404	W FOOTHILL PKY	21948	45	0	94.5%	1.7%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684980	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	W CHASE DR	0	45	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684982	44.7	48.4	48.8	2	4	9	GARRETSON AVE	1087	15	0	98.1%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684984	62.6	66.2	66.7	30	64	139	W GRAND BLVD	10170	35	0	97.2%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684986	55.0	58.6	59.1	9	20	43	W 6TH ST	4020	25	0	97.8%	1.0%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684988	40.9	44.5	44.9	1	2	5	S MERRILL ST	547	15	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684990	42.4	46.0	46.4	1	3	6	S MERRILL ST	606	15	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684992	47.6	51.2	51.6	3	6	14	S BELLE AVE	553	30	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2684996	66.0	69.6	70.0	50	108	232	S MAIN ST	17740	40	0	97.9%	0.8%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2684998	62.9	66.5	67.0	31	68	146	W GRAND BLVD	10856	35	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685000	61.0	64.7	65.1	24	51	109	E 3RD ST	5825	30	0	93.4%	2.1%	4.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2685002	68.2	71.9	72.3	71	153	330	S MAIN ST	22130	45	0	97.7%	0.8%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685004	42.1	45.7	46.1	1	3	6	W 2ND ST	315	15	0	96.1%	1.6%	2.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685006	50.4	54.0	54.5	5	10	21	E 6TH ST	1817	25	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685011	67.4	71.0	71.5	63	135	292	S MAIN ST	18200	45	0	97.6%	0.9%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685013	39.6	43.2	43.6	1	2	4	S JOY ST	319	15	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685015	45.1	48.7	49.2	2	4	10	S JOY ST	748	15	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685018	65.3	68.9	69.3	45	97	209	S MAIN ST	15408	40	0	98.1%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685021	56.8	60.4	60.8	12	26	57	E GRAND BLVD	3664	35	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685023	59.4	63.0	63.5	18	40	85	E GRAND BLVD	6471	35	0	98.8%	0.7%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685026	53.0	56.6	57.1	7	15	32	E 6TH ST	2914	25	0	98.3%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685027	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		842	0	0	96.2%	1.4%	2.4%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2685028	65.2	68.8	69.3	45	96	208	RAILROAD ST	8729	40	0	91.4%	3.9%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685030	65.7	69.4	69.8	48	104	225	RAILROAD ST	10084	40	0	91.8%	3.8%	4.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685032	66.7	70.3	70.8	56	121	261	W GRAND BLVD	20073	35	0	94.7%	2.3%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685035	67.2	70.8	71.2	60	130	280	E PARKRIDGE AVE	15798	45	0	96.5%	1.6%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685037	63.2	66.8	67.3	33	71	153	E HARRISON ST	9999	35	0	95.6%	1.9%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685039	66.8	70.4	70.8	57	122	262	E GRAND BLVD	17989	35	0	93.8%	2.3%	3.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685043	63.8	67.4	67.9	36	78	168	E PARKRIDGE AVE	7459	45	0	96.8%	1.4%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685045	61.8	65.4	65.9	26	57	123	N JOY ST	6062	40	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685048	60.7	64.3	64.8	22	48	104	W RINCON ST	5958	35	0	96.1%	1.8%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685050	56.9	60.5	60.9	12	27	58	N COTA ST	1929	40	0	96.6%	1.5%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685054	62.4	66.0	66.4	29	62	134	E HARRISON ST	7736	35	0	95.2%	2.0%	2.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685057	72.0	75.6	76.0	126	272	587	N MAIN ST	50503	40	0	95.2%	1.3%	3.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685059	65.3	68.9	69.3	45	97	209	RAILROAD ST	9097	40	0	92.0%	3.6%	4.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685062	57.0	60.6	61.0	13	27	58	E GRAND BLVD	3823	35	0	99.1%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685065	59.8	63.5	63.9	20	42	91	E OLIVE ST	5476	35	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685067	49.4	53.0	53.4	4	8	18	GARRETSON AVE	886	30	0	98.5%	0.8%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685069	70.4	74.0	74.4	98	212	456	E ONTARIO AVE	33161	45	0	97.0%	1.1%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685071	61.1	64.7	65.2	24	51	110		5238	45	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685073	44.8	48.4	48.8	2	4	9		1735	15	0	99.1%	0.5%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685075	56.2	59.8	60.3	11	24	52		2145	40	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685078	62.8	66.5	66.9	31	67	144		6848	45	0	98.3%	0.6%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685080	60.8	64.4	64.8	23	49	105		8267	35	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685083	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685086	49.0	52.6	53.0	4	8	17	E CHASE DR	637	35	0	99.4%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685088	68.6	72.2	72.6	75	161	347	E FOOTHILL PKY	23033	40	0	95.0%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685090	56.0	59.6	60.1	11	24	51		2325	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685092	54.9	58.5	59.0	9	20	43		2577	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685094	57.9	61.5	62.0	15	31	68		3593	40	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685096	61.4	65.0	65.5	25	54	116		6550	40	0	98.3%	0.7%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685099	23.3	26.9	27.3	0	0	0	E CHASE DR	2	35	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685101	59.8	63.4	63.9	20	42	91	E RINCON ST	4120	35	0	95.0%	1.9%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685103	59.3	62.9	63.3	18	39	83	N COTA ST	3358	40	0	96.6%	1.4%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685105	59.5	63.1	63.5	18	40	86	N COTA ST	3140	40	0	95.4%	2.1%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685109	64.8	68.4	68.8	42	90	194	E PARKRIDGE AVE	8718	45	0	96.2%	1.5%	2.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685113	64.6	68.2	68.7	41	88	190	HIDDEN VALLEY PKY	9557	45	0	97.2%	1.5%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685120	63.7	67.4	67.8	36	77	166	FULLERTON AVE	9189	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685122	52.9	56.5	57.0	7	15	31	CIRCLE CITY DR	1386	35	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685124	44.0	47.6	48.1	2	4	8	FORD ST	977	15	0	98.3%	0.9%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685127	63.8	67.4	67.8	36	77	166	FULLERTON AVE	9189	40	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685130	60.9	64.5	64.9	23	49	107	RIMPAU AVE	7445	35	0	97.7%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685132	69.0	72.6	73.1	80	172	371	E 6TH ST	20781	45	0	95.1%	1.9%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685134	56.5	60.1	60.5	12	25	54	SANTA ANA FWY	3197	35	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685137	68.5	72.1	72.6	74	159	343	E 6TH ST	23629	40	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685139	66.0	69.6	70.0	50	108	232	E 6TH ST	11375	45	0	96.4%	1.4%	2.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685141	62.6	66.2	66.6	30	64	138	SANTA ANA FWY	9105	35	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685143	59.0	62.6	63.0	17	37	80	CALIFORNIA AVE	8018	30	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685145	70.0	73.6	74.1	93	201	433	E FOOTHILL PKY	26521	45	0	95.5%	1.4%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685147	48.2	51.8	52.3	3	7	15	SANTANA WAY	513	35	0	99.0%	0.7%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685149	61.3	64.9	65.3	24	53	113		5105	45	0	98.9%	0.4%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685151	57.1	60.7	61.2	13	28	60	SANTANA WAY	2842	35	0	96.9%	1.4%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685153	61.8	65.4	65.8	26	57	122	FULLERTON AVE	7514	40	0	98.6%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685155	49.9	53.5	54.0	4	9	20	TABER ST	551	40	0	99.3%	0.4%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685158	70.7	74.3	74.8	104	224	483	E ONTARIO AVE	36270	45	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685162	66.7	70.3	70.7	56	121	260	RIMPAU AVE	28315	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685164	57.0	60.6	61.1	13	27	59	CALIFORNIA AVE	2657	40	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685166	64.5	68.1	68.5	40	86	185	MAGNOLIA AVE	14136	40	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685168	61.6	65.2	65.6	26	55	119	RIMPAU AVE	10390	35	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685170	66.0	69.6	70.0	50	108	233	FULLERTON AVE	13149	45	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685173	70.7	74.3	74.8	104	224	483	E ONTARIO AVE	36066	45	0	96.9%	1.2%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685175	57.0	60.6	61.1	13	27	59	CALIFORNIA AVE	2657	40	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685189	67.6	71.2	71.6	64	138	298	CAJALCO RD	22096	45	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685191	64.6	68.2	68.6	40	87	187	EAGLE GLEN PKWY	10724	45	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685206	64.7	68.3	68.7	41	88	190	PROMENADE AVE	10223	45	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685208	65.0	68.6	69.1	43	93	201	PROMENADE AVE	11521	45	0	98.4%	0.9%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685210	68.3	72.0	72.4	72	156	335	MAGNOLIA AVE	22061	45	0	97.4%	1.1%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685212	68.7	72.3	72.7	76	163	352	MAGNOLIA AVE	23612	45	0	97.4%	1.2%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685215	66.4	70.0	70.5	54	115	249	PROMENADE AVE	15272	45	0	97.9%	1.2%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685217	68.0	71.6	72.0	68	147	316	YUMA DR	21516	45	0	97.7%	1.3%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2685219	65.7	69.3	69.7	48	103	222	YUMA DR	12533	45	0	97.5%	1.4%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685221	69.3	72.9	73.3	83	179	387	E ONTARIO AVE	28550	45	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685223	67.4	71.0	71.5	63	135	291	GRANT ST	23386	40	0	97.3%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685225	67.6	71.2	71.7	64	139	299	TEMESCAL CANYON RD	27889	40	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685229	67.4	71.0	71.4	62	134	289	CAJALCO RD	19510	45	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685234	65.1	68.7	69.1	44	94	203	EL CERRITO RD	13246	45	0	99.6%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685236	70.3	73.9	74.3	97	209	451	EL CERRITO RD	28181	45	0	95.6%	1.4%	3.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685239	67.8	71.4	71.8	66	142	306	MAGNOLIA AVE	19811	45	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685241	68.6	72.2	72.6	75	162	348	MAGNOLIA AVE	23255	45	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685243	67.3	70.9	71.3	61	132	284	PROMENADE AVE	20266	45	0	98.6%	0.9%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685245	69.4	73.0	73.4	85	183	394	MC KINLEY ST	27462	45	0	97.0%	1.5%	1.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685247	68.1	71.7	72.2	70	150	323	MC KINLEY ST	22024	45	0	97.6%	1.3%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685254	66.8	70.4	70.9	57	123	266	MAGNOLIA AVE	16539	45	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685265	62.8	66.4	66.8	31	66	143	DE PALMA RD	7687	40	0	97.0%	1.2%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685267	58.0	61.6	62.0	15	32	68	TEMESCAL CANYON RD	3282	40	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685269	64.1	67.7	68.1	38	81	174	ORANGE-RIVERSIDE CORRIDOR	11094	40	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685273	68.6	72.2	72.6	75	161	346	KNABE RD	19565	50	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685275	68.7	72.3	72.7	76	163	352	KNABE RD	20096	50	0	98.4%	0.7%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685277	65.3	68.9	69.3	45	97	210	TEMESCAL CANYON RD	15604	40	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685279	65.3	68.9	69.4	45	98	211	TEMESCAL CANYON RD	17391	40	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685282	66.3	69.9	70.3	52	113	243	TEMESCAL CANYON RD	23619	40	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685284	65.0	68.6	69.1	43	94	202	TEMESCAL CANYON RD	17686	40	0	99.4%	0.3%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685294	63.7	67.3	67.7	35	76	163	PROMENADE AVE	8375	45	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685296	64.5	68.1	68.6	40	86	186	E 6TH ST	8539	45	0	96.8%	1.3%	1.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2685298	70.6	74.2	74.6	101	219	471	MAGNOLIA AVE	37519	45	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685300	56.3	59.9	60.4	11	25	53	INDIANA AVE	2283	40	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685360	58.3	61.9	62.3	15	33	71	INDIANA AVE	3670	40	0	99.2%	0.5%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685425	66.4	70.0	70.4	53	115	247	WEIRICK RD	23158	40	0	99.2%	0.3%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2685505	57.0	60.6	61.0	13	27	59	TEMESCAL CANYON RD	2846	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686514	72.2	75.8	76.2	130	279	601	GREEN RIVER RD	44695	45	0	95.9%	1.4%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686518	72.1	75.7	76.1	128	275	592	GREEN RIVER RD	43777	45	0	95.9%	1.4%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686520	72.0	75.6	76.1	127	274	590	GREEN RIVER RD	43483	45	0	95.9%	1.4%	2.7%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686522	50.5	54.1	54.5	5	10	22		857	30	0	96.8%	1.6%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686525	41.3	44.9	45.3	1	2	5		656	15	0	99.0%	0.3%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686528	70.6	74.3	74.7	103	221	477	GREEN RIVER RD	30654	45	0	95.4%	1.5%	3.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686530	41.4	45.0	45.4	1	2	5		859	15	0	99.4%	0.3%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686535	70.5	74.1	74.6	101	217	468	GREEN RIVER RD	28950	45	0	95.1%	1.6%	3.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686539	51.6	55.3	55.7	6	12	26	PASEO GRANDE	2736	25	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686541	64.3	67.9	68.4	39	84	181	SERFAS CLUB DR	23280	30	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686543	58.9	62.5	62.9	17	36	79	PASEO GRANDE	10079	25	0	97.9%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686545	55.0	58.6	59.1	9	20	43		2044	35	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686547	55.7	59.3	59.8	10	22	48		2317	35	0	97.6%	1.3%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686550	62.6	66.2	66.7	30	65	139	BORDER AVE	11858	35	0	98.1%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686553	54.5	58.1	58.5	9	18	40	SAPPHIRE LN	1909	35	0	98.2%	1.1%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686560	61.1	64.7	65.1	24	51	110	BORDER AVE	9660	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686562	61.6	65.2	65.7	26	55	120	PLZ DE NOCHE	8371	35	0	97.3%	1.2%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686564	48.4	52.0	52.4	3	7	16	WARDLOW RD	1518	15	0	96.2%	1.9%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686566	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	WARDLOW RD	0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686569	67.5	71.1	71.6	64	137	296	S MAPLE ST	10293	50	0	93.0%	2.7%	4.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686571	70.6	74.2	74.6	102	219	472	RAILROAD ST	9176	45	0	67.8%	11.6%	20.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686573	64.1	67.7	68.1	38	81	174	N MAPLE ST	9203	40	0	95.8%	1.6%	2.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686575	68.4	72.0	72.5	73	157	339	RAILROAD ST	7255	45	0	76.6%	8.8%	14.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686577	66.5	70.1	70.5	54	117	252	PALISADES DR	10921	50	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686581	62.8	66.4	66.9	31	67	144	S LINCOLN AVE	12801	35	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686583	57.5	61.1	61.5	14	29	63		2948	40	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686585	57.8	61.4	61.9	14	31	66		3205	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686588	47.1	50.7	51.2	3	6	13	W ONTARIO AVE	2861	15	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686591	65.0	68.6	69.0	43	93	200	VIA PACIFICA	13996	40	0	97.8%	0.8%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686593	48.3	51.9	52.3	3	7	15	W ONTARIO AVE	3082	15	0	98.7%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686595	51.5	55.1	55.5	5	12	25		933	35	0	98.2%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686597	57.9	61.5	62.0	15	31	68		4249	35	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686599	42.0	45.6	46.1	1	3	6		130	35	0	99.4%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686601	70.3	73.9	74.3	97	209	451	W FOOTHILL PKY	27656	45	0	95.2%	1.5%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686604	58.0	61.6	62.1	15	32	69	S LINCOLN AVE	2419	45	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686606	61.4	65.0	65.4	25	53	115		6232	40	0	98.0%	0.7%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686609	53.8	57.4	57.8	8	17	36		1966	35	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686612	61.3	64.9	65.3	24	53	113		6106	40	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686614	50.9	54.5	54.9	5	11	23		1281	30	0	98.7%	0.6%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686617	55.3	58.9	59.4	10	21	45		2539	35	0	99.0%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686620	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!		1890	0	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2686619	50.6	54.2	54.7	5	10	22		1186	30	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686621	57.7	61.3	61.7	14	30	65		3053	40	0	98.8%	0.5%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686623	61.6	65.2	65.6	26	55	118		6673	40	0	98.2%	0.7%	1.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686625	61.3	64.9	65.3	24	53	113		6106	40	0	98.0%	0.7%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686627	57.1	60.7	61.2	13	28	60		2672	40	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686629	65.0	68.6	69.0	43	93	200	MAGNOLIA AVE	16491	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686631	57.7	61.3	61.8	14	30	65		3047	40	0	98.8%	0.6%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686634	56.0	59.6	60.0	11	23	50	MOUNTAIN GATE DR	2333	40	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686636	69.7	73.3	73.8	89	192	413	W FOOTHILL PKY	23276	45	0	94.8%	1.6%	3.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20

2686640	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!			0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686642	58.5	62.1	62.5	16	34	74	S MAIN ST		3790	40	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686644	63.0	66.6	67.1	32	69	148			9755	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686646	68.6	72.2	72.7	75	162	350	E FOOTHILL PKY		23215	40	0	95.0%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686648	68.6	72.2	72.6	75	161	348	E FOOTHILL PKY		22856	40	0	94.9%	1.6%	3.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686651	54.3	57.9	58.3	8	18	39			1479	40	0	99.2%	0.4%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686653	60.4	64.0	64.4	21	46	99			6197	40	0	99.5%	0.3%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686655	60.0	63.6	64.1	20	43	93	RIMPAU AVE		5772	40	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686658	61.4	65.0	65.4	25	54	115	RIMPAU AVE		5681	45	0	99.5%	0.3%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686662	63.2	66.8	67.3	33	71	152	RIMPAU AVE		8149	45	0	99.0%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686666	51.4	55.1	55.5	5	12	25	SANTANA WAY		1084	35	0	99.1%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686668	53.4	57.0	57.5	7	16	34	E CHASE DR		1423	35	0	98.0%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686670	56.5	60.1	60.6	12	25	54	KELLOGG AVE		2781	35	0	97.7%	1.2%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686674	40.5	44.1	44.5	1	2	5			148	30	0	99.7%	0.2%	0.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686677	62.1	65.7	66.1	28	59	128	S MAIN ST		8398	40	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686682	55.0	58.6	59.1	9	20	43	CITRON ST		2311	35	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686685	57.7	61.3	61.7	14	30	65	S BUENA VISTA AVE		4056	35	0	98.5%	0.7%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686687	55.9	59.5	59.9	11	23	49	CITRON ST		2608	35	0	98.4%	0.8%	0.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686689	60.7	64.3	64.8	22	48	104	KELLOGG AVE		7216	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686691	69.8	73.4	73.8	90	194	417	E ONTARIO AVE		28472	45	0	96.8%	1.2%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686693	66.4	70.0	70.4	53	115	248	MAGNOLIA AVE		20635	40	0	98.3%	0.8%	0.9%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686695	60.5	64.1	64.6	22	47	101	KELLOGG AVE		6920	35	0	97.8%	0.9%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686697	58.1	61.7	62.1	15	32	69	GARRETSON AVE		3338	40	0	98.7%	0.7%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686701	62.7	66.3	66.7	30	65	140	FULLERTON AVE		9442	35	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686704	67.8	71.4	71.9	67	143	309	MAGNOLIA AVE		27621	40	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686706	62.8	66.4	66.9	31	67	144	SANTA ANA FWY		9797	35	0	96.5%	1.4%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686708	59.7	63.3	63.7	19	41	89	RIMPAU AVE		5198	35	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686710	62.6	66.2	66.6	30	64	138	SANTA ANA FWY		9105	35	0	96.4%	1.5%	2.1%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686712	63.6	67.2	67.7	35	75	162			7850	45	0	97.9%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686714	71.3	74.9	75.3	113	243	524	MAGNOLIA AVE		44342	45	0	97.6%	1.0%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686715	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!			2235	0	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2686716	64.1	67.7	68.1	38	81	174	E 6TH ST		7038	45	0	95.9%	1.5%	2.6%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686718	64.0	67.6	68.0	37	79	171			10658	40	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686723	68.5	72.1	72.6	74	159	343	E 6TH ST		23629	40	0	95.2%	1.8%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686728	57.8	61.4	61.9	14	31	67	S TEMESCAL ST		9262	15	0	94.6%	2.2%	3.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686730	60.7	64.3	64.8	22	48	104	N BUENA VISTA AVE		5615	35	0	95.9%	1.6%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686732	59.6	63.2	63.7	19	41	88	S BUENA VISTA AVE		5199	35	0	97.1%	1.3%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686734	56.2	59.8	60.2	11	24	52	W 8TH ST		1904	40	0	97.8%	1.1%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686737	59.0	62.6	63.0	17	37	80	W 8TH ST		3578	40	0	97.8%	0.9%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686741	63.6	67.2	67.6	35	75	161	W GRAND BLVD		12558	35	0	97.1%	1.2%	1.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686744	55.6	59.2	59.6	10	22	47	W 6TH ST		4838	25	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686746	60.5	64.1	64.6	22	47	101			3948	45	0	98.0%	0.8%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686748	70.5	74.2	74.6	101	218	470	E ONTARIO AVE		35138	45	0	97.1%	1.1%	1.8%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686751	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!			918	0	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2686750	54.9	58.5	58.9	9	20	42	KELLOGG AVE		1872	35	0	97.5%	1.3%	1.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686752	62.4	66.0	66.4	29	62	134	FULLERTON AVE		8631	40	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686754	64.5	68.1	68.6	40	87	187	RIMPAU AVE		10868	45	0	98.9%	0.5%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686756	59.9	63.5	64.0	20	43	92	CALIFORNIA AVE		3789	45	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686764	62.9	66.6	67.0	32	68	146	EL CERRITO RD		8102	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686766	65.0	68.6	69.1	43	93	201	EL CERRITO RD		13034	45	0	99.6%	0.2%	0.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686768	70.2	73.8	74.2	96	206	444	E FOOTHILL PKY		27845	45	0	95.6%	1.4%	3.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686771	63.9	67.6	68.0	37	79	171			12006	40	0	98.4%	0.6%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686773	62.8	66.4	66.8	31	66	143			7130	45	0	98.8%	0.5%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686777	65.6	69.2	69.6	47	102	220	W 6TH ST		21237	35	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686779	62.5	66.1	66.5	29	63	136	W GRAND BLVD		10932	35	0	97.8%	1.1%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687897	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!			305	0	0	98.6%	0.7%	0.7%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2686787	55.0	58.7	59.1	9	20	44	S VICTORIA AVE		2380	30	0	96.9%	1.2%	1.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686789	60.3	63.9	64.3	21	45	97	E 8TH ST		4418	40	0	97.2%	1.1%	1.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686793	63.9	67.5	68.0	37	79	170	E GRAND BLVD		14472	35	0	97.4%	1.2%	1.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686797	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!			6	0	0	99.3%	0.4%	0.4%	74.3%	11.3%	14.4%	9	Soft	50	0.5	#N/A
2686799	46.7	50.3	50.7	3	6	12	W 10TH ST		1293	15	0	97.5%	1.0%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686801	55.6	59.2	59.7	10	22	47	W OLIVE ST		2734	35	0	98.9%	0.6%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686803	43.0	46.6	47.0	1	3	7	S MERRILL ST		1108	15	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686807	67.4	71.1	71.5	63	135	292	S MAIN ST		25300	40	0	98.0%	0.8%	1.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686810	59.9	63.5	64.0	20	43	92	E OLIVE ST		5650	35	0	97.4%	1.0%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686812	36.9	40.5	40.9	1	1	3			170	15	0	98.0%	1.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686814	46.8	50.4	50.9	3	6	12	W 10TH ST		1012	15	0	96.5%	1.3%	2.2%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686816	43.9	47.5	47.9	2	4	8			263	30	0	98.7%	0.8%	0.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686818	43.5	47.1	47.5	2	3	7	E 10TH ST		967	15	0	98.5%	0.7%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686822	39.5	43.1	43.5	1	2	4	E 10TH ST		241	15	0	97.2%	1.3%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686824	53.8	57.4	57.8	8	17	36			1683	30	0	96.7%	1.2%	2.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686826	58.4	62.0	62.5	16	34	73			5032	30	0	96.6%	1.5%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686830	57.4	61.0	61.4	13	29	62	MERRILL ST		2332	40	0	97.2%	1.3%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686835	64.8	68.4	68.8	42	90	193			12607	40	0	97.2%	1.1%	1.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686837	59.2	62.8	63.3	18	38	82			3688	40	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686839	64.2	67.8	68.2	38	82	177			12670	40	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686842	64.6	68.2	68.6	40	87	187	EAGLE GLEN PKWY		10724	45	0	98.8%	0.6%	0.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686844	62.7	66.3	66.8	30	66	141	EAGLE GLEN PKWY		6781	45	0	98.4%	0.7%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686846	48.8	52.4	52.8	4	8	17			831	30	0	98.9%	0.5%	0.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

2686848	60.2	63.8	64.2	21	44	95	OLD TEMESCAL RD	3856	45	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686850	69.6	73.2	73.6	87	188	404	KNABE RD	24906	50	0	98.5%	0.6%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686852	68.6	72.2	72.6	75	161	346	KNABE RD	19565	50	0	98.4%	0.7%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686857	65.0	68.6	69.1	43	93	201		8893	50	0	98.6%	0.6%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686859	64.0	67.6	68.0	37	80	171	TEMESCAL CANYON RD	14096	40	0	99.5%	0.2%	0.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686861	58.0	61.6	62.0	15	32	68	TEMESCAL CANYON RD	3282	40	0	98.9%	0.6%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686864	64.4	68.0	68.5	40	85	184	N SMITH AVE	10445	40	0	96.2%	1.6%	2.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686866	66.8	70.4	70.8	57	122	263	RAILROAD ST	10688	40	0	89.3%	4.7%	6.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686870	56.3	59.9	60.3	11	24	53		1204	40	0	92.4%	3.6%	4.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686880	69.1	72.7	73.2	81	175	378	RIVER RD	23440	45	0	96.2%	1.5%	2.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686888	70.6	74.2	74.7	103	221	476	N MAIN ST	33408	40	0	94.3%	1.4%	4.3%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686890	67.1	70.7	71.1	60	128	277	RIVER RD	16600	45	0	97.4%	1.1%	1.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686892	70.6	74.3	74.7	103	221	477	N MAIN ST	33749	40	0	94.4%	1.4%	4.2%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686895	61.5	65.1	65.5	25	54	117	W RINCON ST	5575	40	0	96.5%	1.7%	1.9%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686902	71.7	75.3	75.8	121	261	563	N MAIN ST	47237	40	0	95.2%	1.3%	3.5%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686904	66.7	70.3	70.7	56	120	259	RIVER RD	15012	45	0	97.4%	1.1%	1.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686906	65.4	69.0	69.4	46	98	212	RAILROAD ST	9075	40	0	91.6%	3.9%	4.6%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686908	59.1	62.7	63.2	18	38	81	N COTA ST	2939	40	0	95.6%	1.9%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686918	59.5	63.1	63.6	19	40	86	E RINCON ST	4231	35	0	95.8%	1.7%	2.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686924	63.0	66.6	67.0	32	68	147	N JOY ST	8792	40	0	97.6%	1.1%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686928	62.9	66.5	67.0	31	68	146	E HARRISON ST	9439	35	0	95.8%	1.9%	2.4%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686931	64.6	68.2	68.7	41	88	190	HIDDEN VALLEY PKY	9557	45	0	97.2%	1.5%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686933	62.7	66.3	66.8	30	66	141	E PARKRIDGE AVE	6138	45	0	97.1%	1.6%	1.3%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686935	63.3	66.9	67.3	33	72	154	CRESTA RD	9411	40	0	97.4%	1.3%	1.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686939	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686941	65.0	68.6	69.1	43	93	201	PROMENADE AVE	11521	45	0	98.4%	0.9%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686943	58.5	62.1	62.6	16	34	74		3526	40	0	98.3%	0.9%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686945	63.3	66.9	67.4	33	72	155	PROMENADE AVE	7678	45	0	98.2%	0.9%	0.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686947	64.5	68.1	68.6	40	87	187	E 6TH ST	8455	45	0	96.7%	1.3%	2.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686951	66.0	69.6	70.1	50	109	234	TEMESCAL CANYON RD	21146	40	0	99.1%	0.4%	0.5%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687816	69.0	72.7	73.1	80	173	373	W FOOTHILL PKY	18698	45	0	93.9%	1.9%	4.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686965	65.6	69.2	69.6	47	102	219	MC KINLEY ST	11159	45	0	96.9%	1.3%	1.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686967	56.4	60.0	60.4	11	25	53	INDIANA AVE	2314	40	0	99.0%	0.6%	0.4%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686970	57.4	61.0	61.4	13	29	62	GRANT ST	1864	40	0	95.8%	1.1%	3.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686973	69.0	72.6	73.0	79	171	368	MAGNOLIA AVE	25627	45	0	97.5%	1.1%	1.4%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2686975	68.3	71.9	72.4	72	155	333	MC KINLEY ST	18823	45	0	96.0%	1.4%	2.7%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686978	64.9	68.5	69.0	43	92	198		10789	45	0	97.9%	1.1%	1.0%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686980	70.4	74.0	74.5	99	214	460	MC KINLEY ST	29834	45	0	95.7%	1.5%	2.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686982	64.8	68.4	68.9	42	91	195		8330	45	0	95.6%	1.7%	2.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686984	67.0	70.6	71.1	59	127	273	PROMENADE AVE	18885	45	0	98.5%	0.9%	0.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2686989	48.5	52.2	52.6	3	7	16		1874	15	0	96.6%	1.9%	1.5%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686992	56.1	59.7	60.2	11	24	51	BUCHANAN ST	1616	45	0	98.9%	0.7%	0.3%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686994	62.0	65.6	66.1	27	59	127		10710	35	0	98.1%	1.0%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2686997	45.1	48.7	49.1	2	4	9		1024	15	0	97.0%	2.0%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687173	66.3	69.9	70.4	53	114	245	HIDDEN VALLEY PKY	12710	45	0	96.2%	1.8%	1.9%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687314	59.0	62.6	63.0	17	37	80	BUCHANAN ST	2900	45	0	98.1%	1.2%	0.7%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687814	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	E CHASE DR	0	35	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687819	70.3	74.0	74.4	98	212	456	W FOOTHILL PKY	28341	45	0	95.3%	1.5%	3.2%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
2687821	53.0	56.7	57.1	7	15	32		1425	35	0	98.7%	0.5%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687826	53.1	56.7	57.2	7	15	32	E 6TH ST	2839	25	0	98.1%	0.9%	1.0%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2687824	56.8	60.4	60.9	12	27	57	W 6TH ST	6390	25	0	98.0%	0.9%	1.1%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
100611	71.8	75.4	75.8	122	263	566	YUMA DR	33491	45	0	93.6%	1.7%	4.6%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
124867	68.7	72.3	72.8	77	165	355	YUMA DR	27096	45	0	98.3%	0.9%	0.8%	74.3%	11.3%	14.4%	2	Soft	50	0.5	20
116903	67.6	71.2	71.7	64	139	299	MAGNOLIA AVE	20065	45	0	98.1%	1.0%	1.0%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681749	65.6	69.2	69.6	47	102	219		13161	45	0	98.3%	0.9%	0.8%	74.3%	11.3%	14.4%	1	Soft	50	0.5	6
2685259	68.3	72.0	72.4	72	156	335	MAGNOLIA AVE	23298	45	0	97.9%	1.0%	1.1%	74.3%	11.3%	14.4%	3	Soft	50	0.5	32
2681728	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	15	0	#DIV/0!	#DIV/0!	#DIV/0!	74.3%	11.3%	14.4%	1	Soft	50	0.5	6

Traffic Noise Calculator: FHWA 77-108 **Project Title: CRNA-01**

	Output						Inputs												Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	69.8	73.4	73.8	120	380	1202		McKinley St between Griffin Wy & Magnolia Ave	52,200	35	0.0%	97.10%	1.5%	1.50%	74.3%	11.3%	14.4%	4	Hard	50	0	44
2	67.0	70.6	71.1	64	203	641		McKinley St between Promenade Ave & Griffin Wy	27,702	35	0.0%	96.90%	1.6%	1.50%	74.3%	11.3%	14.4%	4	Hard	50	0	44
3	67.1	70.7	71.2	65	207	653		Eagle Glen Parkway/Cajalco Rd between Masters Dr & I-15	26,300	40	0.0%	99.00%	0.5%	0.60%	74.3%	11.3%	14.4%	3	Hard	50	0	32
4	65.8	69.4	69.8	48	152	482		Lincoln Ave between 6th St & 8th St	24,500	35	0.0%	98.30%	0.9%	0.90%	74.3%	11.3%	14.4%	4	Hard	50	0	44
5	69.3	72.9	73.4	109	345	1091		Hidden Valley Pkwy between Garland Wy & Corona Ave	23,700	45	0.0%	95.80%	2.0%	2.30%	74.3%	11.3%	14.4%	4	Hard	50	0	44
6	71.9	75.5	76.0	197	624	1972		Ontario Ave between California Ave I-15 SB Ramps	47,000	45	0.0%	97.30%	1.0%	1.60%	74.3%	11.3%	14.4%	6	Hard	50	0	68
7	71.6	75.2	75.7	185	586	1852		Ontario Ave between I-15 SB Ramps & State St	47,000	45	0.0%	97.60%	1.0%	1.40%	74.3%	11.3%	14.4%	4	Hard	50	0	44
8	64.9	68.5	68.9	39	124	391		Rimpau Ave between Magnolia Ave & Olympic Dr	18,300	35	0.0%	97.70%	0.9%	1.30%	74.3%	11.3%	14.4%	4	Hard	50	0	44
9	69.6	73.2	73.7	117	369	1167		Green River Rd between Crestridge Dr & Dominguez Ranch Rd	23,600	45	0.0%	95.80%	1.4%	2.80%	74.3%	11.3%	14.4%	6	Hard	50	0	68

Traffic Noise Calculator: FHWA 77-108 **Project Title: CRNA-01**

	Output						Inputs												Auto Inputs	
	dBA at 50 feet			Distance to CNEL Contour																
ID	$L_{eq\text{-}24hr}$	L_{dn}	CNEL	70 dBA	65 dBA	60 dBA	Roadway	Segment	ADT	Posted Speed Limit	Grade	% Autos	% Med Trucks	% Heavy Trucks	% Daytime	% Evening	% Night	Number of Lanes	Site Condition	Distance to Reciever	Ground Absorption	Lane Distance
1	69.8	73.4	73.8	120	380	1202		McKinley St between Griffin Wy & Magnolia Ave	52,200	35	0.0%	97.10%	1.5%	1.50%	74.3%	11.3%	14.4%	4	Hard	50	0	44
2	67.0	70.7	71.1	64	203	643		McKinley St between Promenade Ave & Griffin Wy	27,800	35	0.0%	96.90%	1.6%	1.50%	74.3%	11.3%	14.4%	4	Hard	50	0	44
3	68.4	72.0	72.5	88	279	881		Eagle Glen Parkway/Cajalco Rd between Masters Dr & I-15	33,800	40	0.0%	99.00%	0.5%	0.60%	74.3%	11.3%	14.4%	6	Hard	50	0	68
4	65.9	69.5	69.9	49	155	491		Lincoln Ave between 6th St & 8th St	25,000	35	0.0%	98.30%	0.9%	0.90%	74.3%	11.3%	14.4%	4	Hard	50	0	44
5	69.3	72.9	73.4	109	345	1091		Hidden Valley Pkwy between Garland Wy & Corona Ave	23,700	45	0.0%	95.80%	2.0%	2.30%	74.3%	11.3%	14.4%	4	Hard	50	0	44
6	73.3	76.9	77.3	269	851	2690		Ontario Ave between California Ave I-15 SB Ramps	64,100	45	0.0%	97.30%	1.0%	1.60%	74.3%	11.3%	14.4%	6	Hard	50	0	68
7	73.1	76.7	77.1	257	814	2575		Ontario Ave between I-15 SB Ramps & State St	63,000	45	0.0%	97.60%	1.0%	1.40%	74.3%	11.3%	14.4%	6	Hard	50	0	68
8	65.9	69.5	69.9	49	156	492		Rimpau Ave between Magnolia Ave & Olympic Dr	23,000	35	0.0%	97.70%	0.9%	1.30%	74.3%	11.3%	14.4%	4	Hard	50	0	44
9	71.7	75.3	75.8	189	599	1894		Green River Rd between Crestridge Dr & Dominguez Ranch Rd	38,300	45	0.0%	95.80%	1.4%	2.80%	74.3%	11.3%	14.4%	6	Hard	50	0	68

	CNEL at 50 feet		
	Existing	Future	Increase
McKinley St between Griffin Wy & Magnolia Ave	73.8	73.8	0.0
McKinley St between Promenade Ave & Griffin Wy	71.1	71.1	0.0
Eagle Glen Parkway/Cajalco Rd between Masters Dr & I-15	71.2	72.5	1.3
Lincoln Ave between 6th St & 8th St	69.8	69.9	0.1
Hidden Valley Pkwy between Garland Wy & Corona Ave	73.4	73.4	0.0
Ontario Ave between California Ave I-15 SB Ramps	76.0	77.3	1.3
Ontario Ave between I-15 SB Ramps & State St	75.7	77.1	1.4
Rimpau Ave between Magnolia Ave & Olympic Dr	68.9	69.9	1.0
Green River Rd between Crestridge Dr & Dominguez Ranch Rd	73.7	75.8	2.1

RAILROAD NOISE MODELING

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: City of Corona - Existing

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	45	40	39
Source 2	43	38	36
Source 3	39	31	33
Source 4	36	29	30
Source 5	60	53	53
Source 6	64	57	57
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY		
Noise receiver land use category (1, 2 or 3)	2	Metrolink Soures 1&2, Amtrak Sources 3&4, BNSF Sources 5&6

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS												
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**	
Source Num.	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	650	distance (ft)	650	distance (ft)	650	distance (ft)	650	distance (ft)	650	distance (ft)	650
Daytime Hours	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	40	speed (mph)	40
(7 AM - 10 PM)	trains/hour	1.2	trains/hour	1.2	trains/hour	0.07	trains/hour	0.07	trains/hour	2.13	trains/hour	2.13
	locos/train	1	cars/train	6	locos/train	2	cars/train	11	locos/train	3.5	length of cars (ft) / train	8500
Nighttime Hours	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	40	speed (mph)	40
(10 PM - 7 AM)	trains/hour	0.78	trains/hour	0.78	trains/hour	0.1	trains/hour	0.1	trains/hour	2.13	trains/hour	2.13
	locos/train	1	cars/train	6	locos/train	2	cars/train	11	locos/train	3.5	length of cars (ft) / train	8500
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%
Jointed Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Embedded Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Aerial Structure?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Barrier Present?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Source 7		Source 8	

CALCULATIONS

Term	Sou 1	Sou 2	Sou 3	Sou 4	Sou 5	Sou 6	Sou 7	Sou 8
SELref	92.0	82.0	92.0	82.0	97.0	100.0	0.0	0.0
C1 - Coef	-10.0	20.0	-10.0	20.0	10.0	20.0	0.0	0.0
C1 - Denom	50.0	50.0	50.0	50.0	40.0	40.0	0.0	0.0
C1 - Day Num	50.00	50.00	50.00	50.00	40.00	40.00	0.00	0.00
C1 - Night Num	50.00	50.00	50.00	50.00	40.00	40.00	0.00	0.00
C1 - Day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1 - Night	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C2 - Coef	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0
C2 - Denom	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
C2 - Day Num	1.20	1.20	0.07	0.07	2.13	2.13	0.00	0.00
C2 - Night Num	0.78	0.78	0.10	0.10	2.13	2.13	0.00	0.00
C2 - Day	0.8	0.8	-11.5	-11.5	3.3	3.3	0.0	0.0
C2 - Night	-1.1	-1.1	-10.0	-10.0	3.3	3.3	0.0	0.0
C3 - Coef	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0
C3 - Denom	1.0	1.0	1.0	1.0	1.0	2000.0	0.0	0.0
C3 - Day Num	1.00	6.00	2.00	11.00	3.50	8500.00	0.00	0.00
C3 - Night Num	1.00	6.00	2.00	11.00	3.50	8500.00	0.00	0.00
C3 - Day	0.0	7.8	3.0	10.4	5.4	6.3	0.0	0.0
C3 - Night	0.0	7.8	3.0	10.4	5.4	6.3	0.0	0.0
Leq50ft - Day	57.2	55.0	47.9	45.3	70.1	74.0	0.0	0.0
Leq50ft - Night	55.3	53.1	49.4	46.8	70.1	74.0	0.0	0.0
Ldn50ft	62.1	59.8	55.6	53.0	76.5	80.4	6.4	6.4
Dist Coef	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0
Adj. Dist	-16.7	-16.7	-16.7	-16.7	-16.7	-16.7	0.0	0.0
Adj. Wheel Flats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adj. Jointed	0	0	0	0	0	0	0	0
Adj. Embed	0	0	0	0	0	0	0	0
Adj. Aerial	0	0	0	0	0	0	0	0
Adj. Shield	0	0	0	0	0	0	0	0
Leq - Day	40.5	38.3	31.2	28.6	53.4	57.3	0.0	0.0
Leq - Night	38.6	36.4	32.7	30.1	53.4	57.3	0.0	0.0
Ldn	45.3	43.1	38.9	36.3	59.8	63.7	0.0	0.0
Need Land Use	0							
Calc Leq	0							

REFERENCE DATA

Num	Desc	Ref SEL	Dist Term	Term 1 Desc	Term 1 Denom
0		0	0		0
1	Commuter Electric Locomotive	90	15	speed (mph)	50
2	Commuter Diesel Locomotive	92	15	speed (mph)	50
3	Commuter Rail Cars	82	15	speed (mph)	50
4	RRT/LRT	82	15	speed (mph)	50
5	AGT, Steel Wheel	80	15	speed (mph)	50
6	AGT, Rubber Tire	78	15	speed (mph)	50
7	Monorail	82	15	speed (mph)	50
8	Maglev	72	15	speed (mph)	50
9	Freight Locomotive	97	15	speed (mph)	40
10	Freight Cars	100	15	speed (mph)	40
11	Hopper Cars (empty)	104	15	speed (mph)	40
12	Hopper Cars (full)	100	15	speed (mph)	40
13	Crossover	100	25	trains/hour	1
14	Automobiles	73	15	speed (mph)	50
15	City Buses	84	15	speed (mph)	50
16	Commuter Buses	88	15	speed (mph)	50
17	Rail Yard or Shop	118	25	trains/hour	20
18	Layover Tracks	109	25	trains/hour	1
19	Bus Storage Yard	111	25	buses/hour	100
20	Bus Op. Facility	114	25	buses/hour	200
21	Bus Transit Center	101	25	buses/hour	20
22	Parking Garage	92	25	autos/hour	1000
23	Park & Ride Lot	101	25	autos/hour	2000

LAND USE DATA

Category	Ldn/Leq
0	
1	Leq
2	Ldn
3	Leq

		Term 2				Term 3								Combine
Min	Coef	Desc	Denom	Min	Coef	Desc	Denom	Min	Coef	Jointed	Embedded	Aerial	Barrier	1&2?
0	0													
20	10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	-10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10			4.0	-5.0	0.0
20	10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
0.01	10.0	n of one trair	3600	0.01	10.0						3.0	4.0	-5.0	0.0
30	28.1	vehicles/hour	1	0.01	10.0								-5.0	0.0
30	23.9	vehicles/hour	1	0.01	10.0								-5.0	0.0
30	14.6	vehicles/hour	1	0.01	10.0								-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0	es serviced/h	60	0.01	10.0								-5.0	1.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0	buses/hour	24	0.01	10.0								-5.0	1.0

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: City of Corona - Future

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	44	40	38
Source 2	42	37	36
Source 3	39	31	33
Source 4	37	28	30
Source 5	59	53	53
Source 6	64	58	58
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY		
Noise receiver land use category (1, 2 or 3)	2	Metrolink Soures 1&2, Amtrak Sources 3&4, BNSF Sources 5&6

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS												
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**	
Source Num.	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Commuter Diesel Locomotive	2	Commuter Rail Cars	3	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	1050	distance (ft)	1050	distance (ft)	1050	distance (ft)	1050	distance (ft)	1050	distance (ft)	1050
Daytime Hours	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	40	speed (mph)	40
(7 AM - 10 PM)	trains/hour	2.02	trains/hour	2.02	trains/hour	0.13	trains/hour	0.13	trains/hour	3.79	trains/hour	3.79
	locos/train	1	cars/train	6	locos/train	2	cars/train	11	locos/train	3.5	length of cars (ft) / train	11000
Nighttime Hours	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	50	speed (mph)	40	speed (mph)	40
(10 PM - 7 AM)	trains/hour	1.31	trains/hour	1.31	trains/hour	0.22	trains/hour	0.22	trains/hour	3.79	trains/hour	3.79
	locos/train	1	cars/train	6	locos/train	2	cars/train	11	locos/train	3.5	length of cars (ft) / train	11000
Wheel Flats?		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%		0.00%	% of cars w/ wheel flats	0.00%
Jointed Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Embedded Track?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Aerial Structure?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Barrier Present?	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n	Y/N	n
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Source 7		Source 8	

CALCULATIONS

Term	Sou 1	Sou 2	Sou 3	Sou 4	Sou 5	Sou 6	Sou 7	Sou 8
SELref	92.0	82.0	92.0	82.0	97.0	100.0	0.0	0.0
C1 - Coef	-10.0	20.0	-10.0	20.0	10.0	20.0	0.0	0.0
C1 - Denom	50.0	50.0	50.0	50.0	40.0	40.0	0.0	0.0
C1 - Day Num	50.00	50.00	50.00	50.00	40.00	40.00	0.00	0.00
C1 - Night Num	50.00	50.00	50.00	50.00	40.00	40.00	0.00	0.00
C1 - Day	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C1 - Night	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C2 - Coef	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0
C2 - Denom	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
C2 - Day Num	2.02	2.02	0.13	0.13	3.79	3.79	0.00	0.00
C2 - Night Num	1.31	1.31	0.22	0.22	3.79	3.79	0.00	0.00
C2 - Day	3.1	3.1	-8.9	-8.9	5.8	5.8	0.0	0.0
C2 - Night	1.2	1.2	-6.6	-6.6	5.8	5.8	0.0	0.0
C3 - Coef	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0
C3 - Denom	1.0	1.0	1.0	1.0	1.0	2000.0	0.0	0.0
C3 - Day Num	1.00	6.00	2.00	11.00	3.50	11000.00	0.00	0.00
C3 - Night Num	1.00	6.00	2.00	11.00	3.50	11000.00	0.00	0.00
C3 - Day	0.0	7.8	3.0	10.4	5.4	7.4	0.0	0.0
C3 - Night	0.0	7.8	3.0	10.4	5.4	7.4	0.0	0.0
Leq50ft - Day	59.5	57.2	50.5	48.0	72.6	77.6	0.0	0.0
Leq50ft - Night	57.6	55.4	52.8	50.2	72.6	77.6	0.0	0.0
Ldn50ft	64.3	62.1	59.0	56.4	79.0	84.0	6.4	6.4
Dist Coef	15.0	15.0	15.0	15.0	15.0	15.0	0.0	0.0
Adj. Dist	-19.8	-19.8	-19.8	-19.8	-19.8	-19.8	0.0	0.0
Adj. Wheel Flats	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Adj. Jointed	0	0	0	0	0	0	0	0
Adj. Embed	0	0	0	0	0	0	0	0
Adj. Aerial	0	0	0	0	0	0	0	0
Adj. Shield	0	0	0	0	0	0	0	0
Leq - Day	39.6	37.4	30.7	28.1	52.8	57.8	0.0	0.0
Leq - Night	37.7	35.5	33.0	30.4	52.8	57.8	0.0	0.0
Ldn	44.5	42.3	39.2	36.6	59.2	64.2	0.0	0.0
Need Land Use	0							
Calc Leq	0							

REFERENCE DATA

Num	Desc	Ref SEL	Dist Term	Term 1 Desc	Term 1 Denom
0		0	0		0
1	Commuter Electric Locomotive	90	15	speed (mph)	50
2	Commuter Diesel Locomotive	92	15	speed (mph)	50
3	Commuter Rail Cars	82	15	speed (mph)	50
4	RRT/LRT	82	15	speed (mph)	50
5	AGT, Steel Wheel	80	15	speed (mph)	50
6	AGT, Rubber Tire	78	15	speed (mph)	50
7	Monorail	82	15	speed (mph)	50
8	Maglev	72	15	speed (mph)	50
9	Freight Locomotive	97	15	speed (mph)	40
10	Freight Cars	100	15	speed (mph)	40
11	Hopper Cars (empty)	104	15	speed (mph)	40
12	Hopper Cars (full)	100	15	speed (mph)	40
13	Crossover	100	25	trains/hour	1
14	Automobiles	73	15	speed (mph)	50
15	City Buses	84	15	speed (mph)	50
16	Commuter Buses	88	15	speed (mph)	50
17	Rail Yard or Shop	118	25	trains/hour	20
18	Layover Tracks	109	25	trains/hour	1
19	Bus Storage Yard	111	25	buses/hour	100
20	Bus Op. Facility	114	25	buses/hour	200
21	Bus Transit Center	101	25	buses/hour	20
22	Parking Garage	92	25	autos/hour	1000
23	Park & Ride Lot	101	25	autos/hour	2000

LAND USE DATA

Category	Ldn/Leq
0	
1	Leq
2	Ldn
3	Leq

		Term 2				Term 3								Combine
Min	Coef	Desc	Denom	Min	Coef	Desc	Denom	Min	Coef	Jointed	Embedded	Aerial	Barrier	1&2?
0	0													
20	10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	-10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10				-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	cars/train	1	1	10			4.0	-5.0	0.0
20	10.0	trains/hour	1	0.01	10.0	locos/train	1	1	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
20	20.0	trains/hour	1	0.01	10.0	n of cars (ft) /	2000	40	10	5.0	3.0	4.0	-5.0	0.0
0.01	10.0	n of one trair	3600	0.01	10.0						3.0	4.0	-5.0	0.0
30	28.1	vehicles/hour	1	0.01	10.0								-5.0	0.0
30	23.9	vehicles/hour	1	0.01	10.0								-5.0	0.0
30	14.6	vehicles/hour	1	0.01	10.0								-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0	es serviced/h	60	0.01	10.0								-5.0	1.0
0.01	10.0												-5.0	0.0
0.01	10.0												-5.0	0.0
0.01	10.0	buses/hour	24	0.01	10.0								-5.0	1.0

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	104
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	2
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	40
Future Train Speed (mph)	40
Number of Existing Trains in one Direction	39
Number of Future Trains in one Direction	68.5
Existing Number of Day Trains (7 am to 10 p.m.)	24.375
Future Number of Day Trains (7 am to 10 p.m.)	42.8125
Existing Number of Night Trains (10 p.m. to 7 am)	14.625
Future Number of Night Trains (10 p.m. to 7 am)	25.6875
Existing Average Number of Cars	71
Future Average Number of Cars	71
Existing Average Number of Locomotives	2.7
Future Average Number of Locomotives	2.7

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

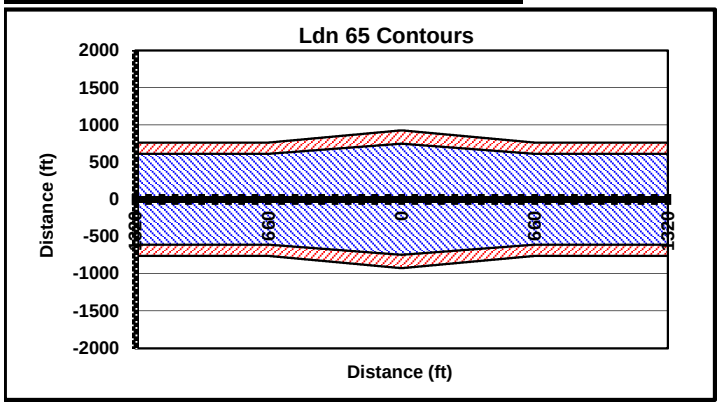
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

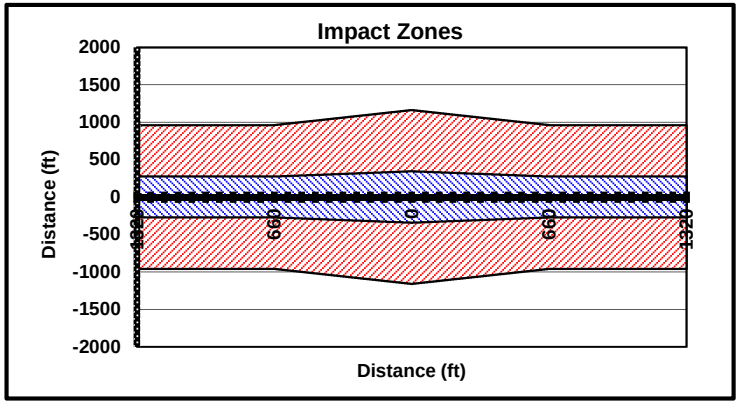
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	747
Future 65 Ldn Contour at X-ing	926
Existing 65 Ldn Contour at 1/2 zone length	610
Future 65 Ldn Contour at 1/2 zone length	761
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	1161
Severe Impact Distance at X-ing	343
Impact Distance at 1/2 zone length	960
Severe Impact Distance at 1/2 zone length	273
Zone Length	1320
1/2 Zone Length	660





Appendix K VMT Analysis Guidelines

Appendices

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FEHR PEERS

MEMORANDUM

Date: January 11, 2019

To: Mark Hoffman, Placeworks

From: Jason D. Pack, P.E.
Paul Herrmann, P.E.

Subject: Draft City of Corona CEQA Assessment – VMT Analysis Guidelines

OC17-0508

Senate Bill 743 (SB 743), signed by the Governor in 2013, is changing the way transportation impacts are identified. Specifically, the legislation has directed the Governor's Office of Planning and Research (OPR) to look at different metrics for identifying transportation as a California Environmental Quality Act (CEQA) impact. The Final OPR guidelines were released in November 2017 and identified vehicle miles of travel (VMT) as the preferred metric moving forward. The Natural Resources Agency is completing the rule making process to modify the CEQA guidelines, which is expected later this year. Given the timing of this implementation with the City's General Plan, it is prudent to address VMT and develop draft significance criteria to evaluate the General Plan related to VMT, and adopt them prior to circulation of the Draft Environmental Impact Report (EIR).

CEQA Guidelines Section 15064.7, *Thresholds of Significance*, encourages lead agencies to develop and publish thresholds of significance. Pursuant to Section 15064.7(b), the City would be required to adopt threshold of significance for VMT by ordinance, resolution, rule or regulation through a public review process supported by substantial evidence. We are recommending the following thresholds and methodology for the City to adopt by Resolution to supplement the City of Corona's Traffic Impact Study (TIS) Guidelines (2006).

Though, this new metric will govern future CEQA impacts, the City has identified that vehicle level of service (LOS) is still of value to Corona residents. As such, the General Plan will include policies that address LOS and identify LOS standards for which City infrastructure will strive to maintain.

Therefore, City projects will also be required to complete a traffic impact study in addition to the VMT assessment outlined in this memo.

The purpose of this memorandum is to provide recommendations related to VMT assessment (both thresholds of significance and methodology for identifying VMT related impacts). The approach outlined in this memorandum is consistent with the implementation program for SB 743 that is currently being completed by the Western Regional Council of Governments (WRCOG) for consideration by the individual agencies. The thresholds and methodology should be used in conjunction with the *Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR, December 2018)*[1], which provides greater detail on the terminology and analysis procedures described in this memorandum.

Finally, it should be noted that the City should update the City's VMT thresholds and methodology on an as needed basis to reflect changes in CEQA requirements, new methodology development, or refinement of process moving forward. As such, the City should continually review these guidelines for applicability and consultants should contact the City to ensure that they are applying the most recent guidelines for project impact assessment.

1. INTRODUCTION

The purpose of these guidelines is to provide a general guide in assessing the potential transportation impacts of proposed development projects, General Plan Amendments and changes in zoning in the City related to SB 743. This memorandum presents the recommended methodology that should generally be utilized in the preparation of VMT analysis for traffic studies. These recommendations are based on state of the practice methodologies, address recent CEQA legislation such as SB 743, and provide consistency for future transportation studies in the County with the on-going effort being completed by WRCOG.

The Department of Public Works reserves the right to modify the TIS Guidelines requirements based on the unique characteristics of a particular project. Any person completing a VMT assessment should have sufficient background knowledge of SB 743 requirements and travel demand forecasting models to update the information as needed to complete an accurate assessment.

[1] http://opr.ca.gov/docs/20181228-743_Technical_Advisory.pdf

1.1 CEQA CHANGES

Since the last TIS Guidelines update, SB 743 was signed into law. A key element of this law is the elimination or deemphasizing of vehicle delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. This change can assist in balancing the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions which was the legislative intent of the measure.

SB 743 contains amendments to current congestion management law that allows cities and counties to effectively opt-out of the LOS standards that would otherwise apply in areas where Congestion Management Plans (CMPs) are still used. Further, SB 743 requires OPR to update the CEQA Guidelines and establish criteria for determining the significance of transportation impacts. In November 2017, OPR released their final recommended guidelines based on feedback with the public, public agencies, and various organizations and individuals. OPR recommends VMT as the most appropriate measure of project transportation impacts. SB 743 does not prevent a city or county from continuing to analyze delay or LOS as part of other plans (i.e., the general plan), studies, congestion mitigation, or ongoing network monitoring; but these metrics may no longer constitute the sole basis for CEQA impacts.

In recognition of SB 743 and OPR's VMT recommendations, the recommendations in this memorandum include VMT thresholds and mitigation to ensure consistency with CEQA Guidelines.

These guidelines also tier off of the work being completed by WRCOG as part of the SB 743 implementation strategy being completed as part of that effort.

2. CEQA ASSESSMENT - VMT ANALYSIS

The following recommendations assist in determining VMT impact thresholds and mitigation requirements for various land use projects' traffic impact studies.

2.1 ANALYSIS METHODOLOGY

For purposes of SB 743 compliance, a VMT analysis should be conducted for land use projects as deemed necessary by the Traffic Engineering Division and would apply to projects that have the

potential to increase the average VMT per service population (VMT/SP). Service population is typically the aggregate of total employment and population within a study area or project. Please note that anyone that generates traffic will be included in the VMT/SP numerator for total VMT generated. For some project types it may be appropriate to include other users in the denominator for service population, such as hotel residents or school students.

The first step of SB 743 assessment will be to provide initial project screening to determine if a full VMT analysis is required:

1. Does the project have the potential to reduce VMT/SP?
2. Is the project consistent with the Regional Transportation Plan (RTP) / Sustainable Communities Strategy's (SCS)?

Depending on this screening, the analysis requirements will differ for each proposed project. The following guidance, developed for WRCOG's SB 743 Implementation study, provides screening guidance to be utilized for City of Corona projects:

Table 1
VMT Impact Thresholds

Methods	Project Threshold	Cumulative Threshold
Land Use Plans		
• Corona General Plan Model (CGPM) forecast of total daily VMT/SP - To capture project effect, the same cumulative year population and employment growth totals should be used. The 'project' only influences land use allocation.	A significant impact would occur if the project VMT/SP (for the land use plan) exceeds the Citywide average.	A significant impact would occur if the project caused total daily VMT within the City to be higher than the no project alternative under cumulative conditions.
• Consistency check with SCAG RTP/SCS - Is the proposed project within the growth projections in the RTP/SCS?	NA	A significant impact would occur if the project is determined to be inconsistent with the RTP/SCS.
Land Use Projects		
• Transit Priority Area (TPA) screening	Presumed less than significant VMT impact for projects located in TPAs.	Project presumption applies under cumulative conditions as

Table 1 VMT Impact Thresholds		
Methods	**Project Threshold**	**Cumulative Threshold**
		long as project is consistent with SCAG RTP/SCS.
• Low VMT area screening	Presumed less than significant VMT impact for projects located in low VMT generating model traffic analysis zones (TAZs). These TAZs generate total daily VMT/SP that is less than the baseline level for the City.	Project presumption applies under cumulative conditions as long as project is consistent with SCAG RTP/SCS.
• Project type screening	Local serving retail projects (Per OPR's Technical Advisory less than 50,000 square feet) and neighborhood schools are presumed to have a less than significant VMT impact.	Project presumption applies under cumulative conditions as long as project is consistent with SCAG RTP/SCS.
• VMT analysis using CGPM forecast of total daily VMT/SP	A significant impact would occur if the project generates VMT/SP above the City average.	A significant impact would occur if the project is determined to be inconsistent with the RTP/SCS. A significant impact would occur if the project causes total daily VMT within the City to be higher than the no project alternative under cumulative conditions. This analysis should be performed using the 'project effect' method.
Transportation Projects (thresholds may apply for SB 743 or GHG purposes)		
• Lane-mile elasticity (short-term) based on opening year no build vs. build	A significant impact would occur if the project increased the baseline VMT within the City.	NA
• Consistency check with SCAG RTP/SCS	NA	A significant impact would occur if the project is determined to be inconsistent with the RTP/SCS.
• CGPM forecast of total daily VMT	A significant impact would occur if the project increased the baseline VMT within the City.	A significant impact would occur if the project caused total daily VMT within the City to be higher than the no build alternative under cumulative conditions.

2.1.1 Project Screening

As noted above, several types of projects can be screened from SB 743 VMT assessment. In general, the following provides guidance related to this potential screening based on the OPR Technical Advisory:

- Projects which serve the local community and have the potential to reduce VMT, such as neighborhood K-12 schools and local-serving retail less than 50,000 sq. ft.
- Projects located within Transit Priority Areas (TPAs) or High Quality Transit Areas (HQTAs) as determined by the most recent Southern California Association of Governments (SCAG) RTP/SCS should also be exempt from VMT analysis. TPAs are defined in the technical advisor as a ½ mile radius around an existing or planned major transit stop or an existing stop along a high quality transit corridor. HQTAs are defined in the technical advisory as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A map of HQTAs can be reviewed on SCAG's website currently located here (but should be verified by the engineer/ planner related to the criteria for these areas): http://gisdata.scag.ca.gov/Pages/GISStaticMaps.aspx. **Figure 5.10-1** attached to this memorandum shows the TPAs in Corona.
    - Please note that projects that are in TPAs/HQTAs will also be required to complete a secondary screening step to verify the proposed project's consistency with the assumptions from the RTP/SCS. This consistency can be a land use review (e.g. are the proposed land uses already included in the RTP/SCS) or can be reviewed from a VMT/SP perspective (e.g. does the resulting land use increase or decrease the VMT/SP in the Traffic Analysis Zone (TAZ) compared to the RTP/SCS assumptions).
- Projects located in a low VMT-generating TAZ.
    - These projects will require two additional secondary screening steps:
        - Verify that the proposed land use is consistent with the existing land use that is generating low VMT/SP. This will include both a land use (type, density, demographics, etc.) comparison.
        - Verify that the proposed land use is consistent with RTP/SCS assumptions or the project improves VMT/SP compared to the RTP/SCS.

2.1.2 Full VMT Assessment

For projects that do not meet any of the screening criteria above, a traffic impact study completing a full VMT assessment will be required. To complete this assessment, the user will be required to determine if the Project-generated VMT/SP is equal to or less than the existing Citywide VMT/SP.

City of Corona General Plan Model (CGPM)

The City of Corona General Plan Model (CGPM) is the most appropriate travel demand model to use for VMT forecasting within the City. Since the model's VMT/SP is utilized to generate the Citywide averages, use of the CGPM is necessary to ensure that project VMT is evaluated consistently. As such, the user must utilize the CGPM to generate the project VMT so that the trip generation rates and average trip length information are consistent for the comparative purposes. Because the existing VMT/SP is lower in the base year than the forecast year, the VMT/SP in the base year should be used as the CEQA baseline for the analysis. We recommend the City's Traffic Model be updated every 3-5 years to reflect updates to regional transportation models and transportation methodologies used to estimate VMT.

Projects Requiring a General Plan Amendment

Projects that aren't screened our but are consistent with the general plan can typically tier from the general plan EIR and won't need an independent VMT analysis.

For a project that requires a General Plan Amendment, in addition to the Project-generated VMT, the project's effect on VMT must also be evaluated. To evaluate the project's effect on VMT, the user must include the project in the future year City travel demand model and determine if the Citywide VMT increases or not with the project under the General Plan Buildout condition.

The user may need to complete a redistribution of land use to ensure that the "no project" assessment and the "with project" assessment contain the same land use control totals for City or region; especially if the project is large enough that it would affect land use absorption elsewhere in the City or region. The user will need to work with City staff to identify the most appropriate reallocation of land use for this assessment based on project type, scale, location, etc. If a redistribution is assessed, the user should use the following approach to complete the assessment:

- Utilize an economist to identify where else in the local region would assumed development not occur if the proposed project is completed; or

- Review all TAZs within a five- to ten-mile radius of the City and reduce growth proportionately across all TAZs showing growth.
- Land use redistribution would also be required if a project reduces land use in a TPA or in a low VMT-generating TAZ compared to either existing conditions or as planned in the RTP/SCS; thus requiring additional land use to be absorbed elsewhere in the region (which may not be in a TPA or in a low-VMT generating area). The redistribution methodology noted above would also be appropriate for this type of assessment.

2.2 CEQA VMT IMPACT THRESHOLD AND MITIGATION

2.2.1 Project VMT Impacts

A project should be considered to have a significant impact if the project generates total daily VMT/SP above the existing total daily VMT/SP for the City.

2.2.2 Cumulative VMT Impacts

A cumulative impact would occur if the project results in a negative effect on VMT/SP at the Citywide level.

2.2.3 VMT Mitigation Measures

Once a significant impact is identified, the project's VMT per capita should be mitigated to be at or below the existing City VMT/SP. Mitigation should consist of Transportation Demand Management (TDM) measures analyzed under a VMT-reduction methodology consistent with Chapter 7 of the California Air Pollution Control Officers Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures* (August 2010) and approved by the Traffic Engineering Division and Land Use Services Department (if applicable).

If a regional program is available to reduce VMT, such as WRCOG's Transportation Uniform Mitigation Fee (TUMF) program, a fair share payment toward that program would be deemed acceptable. Please note that payments towards TUMF transportation projects that improve vehicle congestion may have unintended increases in VMT.

The following existing programs already accept payments with the end goal of mitigating CEQA transportation impacts:

- TUMF transit improvement projects

- TUMF bike & ped improvement projects
- Project funded TDM program

In addition, the City should consider implementing the following programs to mitigate VMT impacts:

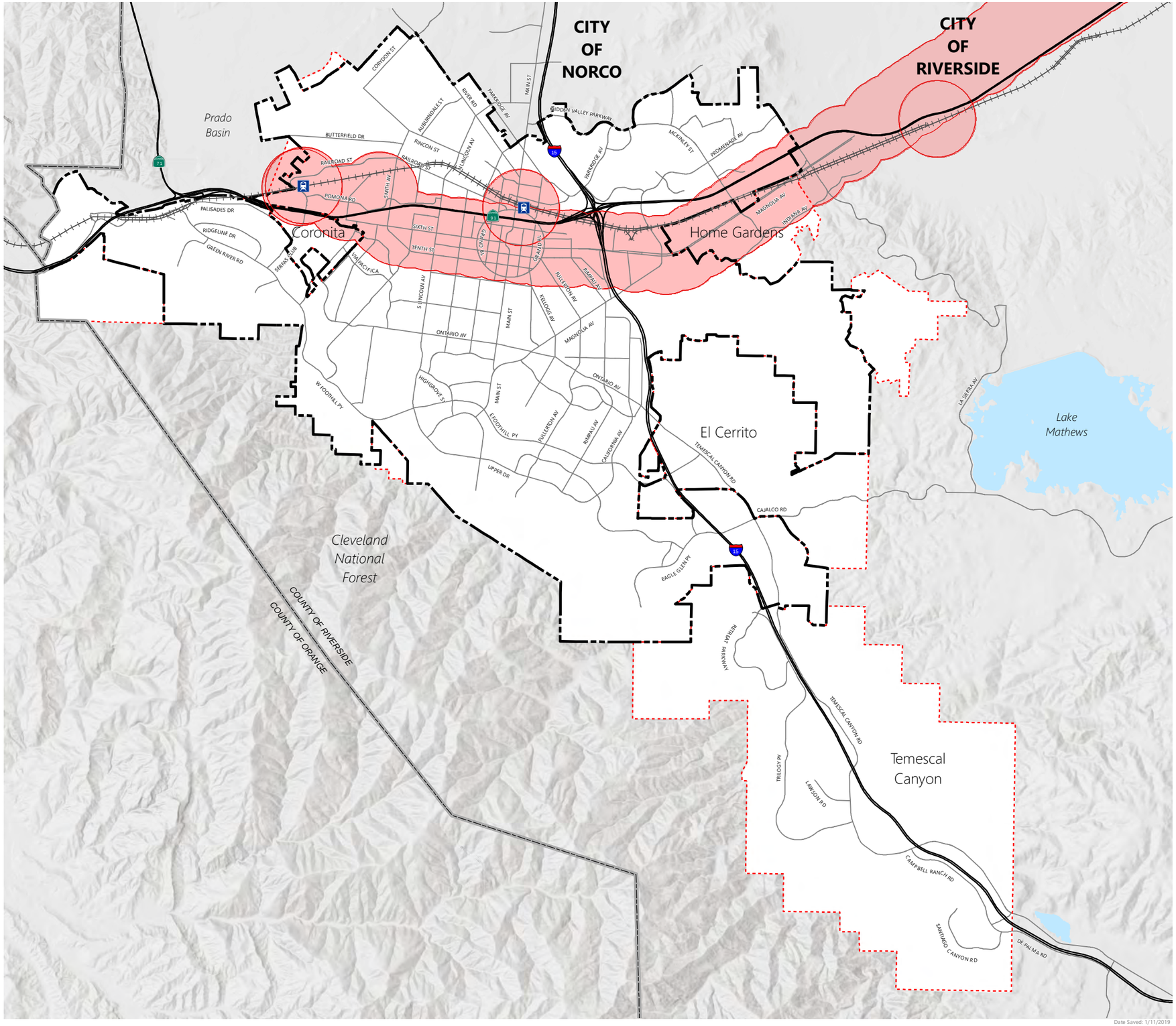
- VMT Mitigation Exchange - An exchange program is a concept where VMT generators can select from a pre-approved list of mitigation projects that may be located within the same jurisdiction or possibly from a larger area. The intent is to match the project's needed VMT reduction with a specific mitigation project of matching size and to provide evidence that the VMT reduction will reasonably occur.
- VMT Mitigation Bank – A mitigation bank is intended to serve as an entity or organization that pools fees from development projects across multiple jurisdictions to spend on larger scale mitigation projects. This concept differs from the more conventional impact fee program approach described above in that the fees are directed to a few larger projects that have the potential for a more significant reduction in VMT and the program is regional in nature.

Attachments:

Figure 5.10-1 – SCAG Transit Priority Areas

Figure 5.10-1

TRANSIT PRIORITY AREAS



Legend

- Metrolink Station
- SCAG Transit Priority Areas 2040
- City Boundary
- Sphere of Influence Areas

Source:
Southern California Association of Governments (SCAG) 2017

CORONA General Plan EIR

Miles
0 0.5 1 1.5 2

PLACEWORKS

Appendix L VMT Assessment

Appendices

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FEHR PEERS

MEMORANDUM

Date: March 27, 2019

To: Terri Manuel, City of Corona
Joanne Coletta, City of Corona

From: Jason D. Pack, P.E.
Paul Herrmann, P.E.

Subject: Corona General Plan VMT Assessment

OC17-0508

This memorandum was developed to document the potential transportation impacts associated with the buildout of the proposed Corona General Plan. The assessment develops vehicle miles traveled (VMT) estimates in accordance with the requirements of Senate Bill 743 (SB 743) which dictates that VMT shall be used for transportation impact assessment in California Environmental Quality Act (CEQA) studies. This assessment has been developed based on Fehr & Peers' recommendations for the City of Corona's proposed traffic impact study guidelines and VMT thresholds of significance. The remainder of this memorandum is divided into VMT Background, VMT Analysis and Conclusions.

VMT Background

As a result of SB 743, the new recommended metric in the CEQA guidelines for transportation impacts is VMT per capita. The legislative intent of SB 743 is to balance the needs of congestion management with statewide goals for infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

The VMT presented in this assessment is the average VMT per person per day in the City of Corona. VMT can be simplified as the product of the number of trips and the trip distance. For example, a project may generate 100 trips per day with a round trip distance of ten miles; the project generates 1,000 VMT. Corona residents on average travel 30 miles per weekday, or 30 VMT. The VMT estimate

accounts for the full length of their trips per day, including home to work, work to shopping, and other trips back to home.

VMT for a project or City can be estimated through the use of travel demand models that forecast traffic patterns for specific driver purposes on typical weekdays. These models contain traffic analysis zones (TAZs) that represent neighborhoods and employment centers with land use data coded that reflects the socioeconomic conditions of that area, such as number of households, population, average income, and type of employment. The trips that are produced and attracted to each of these zones can be recorded with the trip lengths, and thus VMT can be calculated.

Under the City's proposed guidelines, the Corona General Plan Model (CPGM) should be used to forecast daily VMT. To compare scenarios, VMT is normalized by dividing by the total service population. The service population is the sum of the population and employment in the City. A significant impact would occur if the listed conditions below are met:

- Project Level Impact: The buildout of the project increases the total daily VMT per service population (VMT/SP) above the baseline level for the City
- Cumulative Effect on VMT: The buildout of the project causes total daily VMT/SP within the City to be higher than the no project alternative under cumulative conditions (year 2040)

VMT Analysis

Fehr & Peers utilized the CPGM travel demand forecasting model to estimate VMT for the Project and surrounding communities. The VMT estimates incorporate the "full accounting" methodology, in that it accounts for the complete length of the trip from the origin to the destination and assigns 100% of that trip distance to the City of Corona. To estimate the potential VMT impacts, Fehr & Peers had to estimate VMT from the Base Year (2017), Future Year (2040) No Project and Future Year (2040) With Project horizons in the CPGM. The Future Year (2040) No Project scenario assumes the existing general plan is built out in horizon year 2040.

Project VMT

The Base Year (2017) and Future Year (2040) VMT estimates are summarized in **Table 1**. As shown in **Table 1**, the Future Year (2040) VMT/SP in the General Plan area is anticipated to have a VMT/SP of 32.6. This is 2.4 VMT/SP higher than that of the Base Year (2017) VMT/SP, which has a VMT/SP of 30.2.

TABLE 1 PROJECT VMT ANALYSIS SUMMARY

Scenario	2017 Base Year				
	Population	Employment	Service Population	Total Daily VMT	VMT/SP
2017 Base Year					
City of Corona (Citywide) VMT	165,366	70,972	236,338	7,093,655	30.0
Sphere of Influence (SOI) Only VMT	37,264	4,346	41,610	1,295,079	31.1
Total Corona General Plan Area (Citywide plus SOI)	202,630	75,318	277,948	8,385,277	30.2
2040 Future Year					
City of Corona (Citywide) VMT	184,055	84,395	268,450	8,674,797	32.3
Sphere of Influence (SOI) Only VMT	57,842	22,079	79,921	2,702,890	33.8
Total Corona General Plan Area (Citywide plus SOI)	241,897	106,474	348,371	11,366,074	32.6

Source: Fehr & Peers, 2019

Cumulative VMT

The Future Year (2040) No Project and Future Year (2040) With Project VMT estimates are summarized in **Table 2**. Since the No Project and With Project scenarios have the same land use assumptions, the only differences in the scenarios are the road diet on Sixth Street, which reduces the number of lanes on Sixth Street from four to two in the With Project scenario.

As shown in **Table 2**, the With Project and No Project scenarios are forecast to produce generally the same VMT, though the With Project scenario is forecast to generate higher VMT than the No Project scenario by a margin of 0.03% in the General Plan Area and by a margin of 0.02% within the City of Corona.

The results of the modeling estimates indicate that vehicles are selecting a slightly longer path of travel given the lane reduction in capacity on Sixth Street. The relatively small increase in VMT is consistent with the relatively small decrease in lane miles (the 1.75 lane mile reduction on Sixth Street is 0.3% of the total lane miles within the model in the City of Corona and 0.002% of the total lane miles in the SCAG region).



These results are contrary to the theory of induced travel which has found a significant relationship with increasing highway capacity corresponding to increases in VMT. It follows that a reduction in capacity should yield a reduction in VMT for the region. Given the geographic scale of the SCAG region in the CGPM, it is unlikely that the model is sensitive enough to account for effects of induced travel to be accurately reflected in these VMT estimates. The increase in VMT forecast is within the model standard error and is likely negligible.

TABLE 2 CUMULATIVE VMT ANALYSIS SUMMARY

Scenario	2017 Base Year				
	Population	Employment	Service Population	Total Daily VMT	VMT/SP
2040 Future Year No Project					
City of Corona (Citywide) VMT	184,055	84,395	268,450	8,672,884	32.3
Sphere of Influence (SOI) Only VMT	57,842	22,079	79,921	2,701,420	33.8
Total Corona General Plan Area (Citywide plus SOI)	241,897	106,474	348,371	11,362,777	32.6
2040 Future Year With Project					
City of Corona (Citywide) VMT	184,055	84,395	268,450	8,674,797	32.3
Sphere of Influence (SOI) Only VMT	57,842	22,079	79,921	2,702,890	33.8
Total Corona General Plan Area (Citywide plus SOI)	241,897	106,474	348,371	11,366,074	32.6

Source: Fehr & Peers, 2019

Conclusions

This section documents the impacts associated with the buildout of the proposed General Plan and proposes mitigation measures to reduce the impacts to less-than-significant.

VMT Impacts

Since the buildout of the General Plan area is anticipated to have a higher VMT/SP when compared to both the Base Year and Future No Project Conditions, it can be concluded that developing the General Plan to buildout conditions causes a significant impact on VMT.

The City of Corona can consider Transportation Demand Management (TDM) measures which are an effective way to reduce VMT and are not captured in the models, such as CPGM utilized in this analysis. For example, if a plus project scenario VMT surpasses the VMT per service population of the Base Year (2017), the inclusion of TDM measures have the ability to reduce VMT and VMT/SP. As such, the General Plan proposed buildout should result in additional VMT reductions than those summarized above. Therefore, the City should strive to develop and implement TDM measures.

Mitigation Measures

As previously noted, the City Policy Plan will affect VMT in the area. It should be noted that the VMT information presented is produced from the model and only accounts for the built environment variables that the regional model is sensitive to. Additional policies in the City Policy Plan supporting variables the model is not sensitive to (such as connectivity in neighborhoods, presence of bicycle and pedestrian facilities, and transportation demand management (TDM) measures) are not reflected in these estimates. As such, the following provides a summary of built environment variables that the model is either accounting for or not accounting for, and the appropriate approach for the City to consider additional VMT reductions moving forward.

The California Air Pollution Control Officers Association (CAPCOA) documentation provides a variety of information related to potential VMT reduction strategies through implementation of TDM measures. Some of the referenced strategies are already accounted for through the modeling of the General Plan and some are supported through policy language of the General Plan document. Other strategies are project specific and/or would be implemented through the development code or conditioned on future development.

Measures Already Accounted for (In Some Degree) in the General Plan Transportation Modeling

The specific TDM strategies that are already accounted for in the forecasting efforts are noted below along with how well the model has accounted for the attribute:

- Density – The model accounted for adjustments to the trip generation rate for specific land uses like multifamily housing; however, the general plan model makes general assumptions related to density on this level and, for specific developments, may or may not be fully reflecting the effects of density on VMT
- Location Efficiency – The model accounts for the location efficiency of proposed general plan land uses
- Diversity – The model is sensitive to the diversity of land uses and it is reflected in the General Plan forecasts
- Destination Accessibility – The model is sensitive to the accessibility of destinations
- Transit Accessibility – The model accounts for transit access to/from land uses from both existing and planned transit systems

Measures Not Accounted for in the General Plan Transportation Modeling

The following TDM measures are not accounted for in the General Plan forecasts and VMT estimates but may be included in policy direction as part of the General Plan document, through specific development proposals, or through updates to the development code that would further reduce VMT:

- Design – This would likely occur through an update of the development code or design guidelines
- Below Market Rate Housing – This would occur on a project-by-project basis
- Orientation Toward Non-Auto Corridor – This would likely occur through an update of the development code or design guidelines
- Proximity to Bike Path – This would likely occur through an update of the development code or design guidelines
- Pedestrian Network – This would likely occur through an update of the development code, design guidelines or an active transportation plan (ATP)
- Traffic Calming – This would likely occur through an update of the development code, design guidelines or a neighborhood traffic calming program

- Neighborhood Electric Vehicle Network – This would likely apply only for master planned developments and would be project specific
- Bicycle Network – This would likely occur through an update of the development code, design guidelines or ATP
- Parking Supply Limits – This would likely occur through an update of the development code or design guidelines
- Unbundled Parking Costs – This would likely occur through an update of the development code or design guidelines
- On-Street Market Pricing – This would likely occur through an update of the development code or design guidelines
- Residential Area Parking Permits – This would likely occur through an update of the development code or design guidelines
- Transit System Network Expansion – This would likely occur through an update of the development code or design guidelines
- Transit System Frequency/Speed – This would likely occur through an update of the development code or design guidelines
- Bus Rapid Transit – This would likely occur through an update of the development code or design guidelines
- Access Improvements – This would likely occur through an update of the development code or design guidelines
- Station Bike Parking – This would likely occur through an update of the development code or design guidelines
- Local Shuttles – This can occur through expansion of the Corona Cruiser or would be dependent on the developer/owner of future land uses to implement
- Park and Ride Lots – The General Plan can provide policy guidance to promote this strategy
- Commute Trip Reduction Programs (including transit fare subsidies, parking cash-out, parking pricing, alterative work schedules and telecommuting, marketing, employer-sponsored van pools or shuttles, ride share programs, bike share, end of trip facilities, school pool, and school buses) – The General Plan can provide policy guidance to promote these strategies, but the effectiveness is largely dependent on the employer type and the participation rate of their employees

Effectiveness of TDM Measures

The CAPCOA documentation identifies that, in a suburban context, the maximum achievable VMT reduction is 10% unless the development includes a NEV program; in which case a 15% VMT reduction is achievable. Additionally, some of these reductions are accounted for through the transportation modeling completed for the General Plan effort.

As noted above, most of the other measures would be implemented on a project-by-project basis or would occur during the development code update or modifications to the design guidelines and, because those have not yet been completed, cannot be relied upon for this General Plan evaluation.

Given the noted information, the only measures that can be incorporated into the General Plan through policy language are associated with the transit expansion efforts. Given that the City does not own or operate the transit system (except for the Corona Cruiser), the City can only support those efforts and cannot guarantee implementation.

Appendix M Traffic Impact Analysis

Appendices

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DRAFT Transportation Impact Study

Corona General Plan Update

Prepared for:

July 2019

OC17-0508

FEHR & PEERS

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1. EXECUTIVE SUMMARY

1.1 PROPOSED CITYWIDE PLAN

Fehr & Peers prepared this Transportation Impact Study (TIS) for the City of Corona General Plan Update. This TIS summarizes the potential traffic impacts of proposed plan in the City of Corona. The update incorporates land use assumptions, network changes, and policies to guide the city forward into the future.

1.2 SCOPE OF STUDY

The study evaluated 34 intersections and eight roadway segments located throughout the city to identify potential infrastructure needs at those locations. Additionally, consistent with recent state requirements, the study evaluated potential impacts related to vehicle miles of travel (VMT) associated with the project.

As part of the TIS, the Base Year (2017) Condition and the Cumulative Year (2040) General Plan Buildout Condition were evaluated to identify potential impacts to the study locations.

1.3 ANALYSIS RESULTS

The proposed project results in needed improvements to study intersections as identified in **Table 1-1**. Improvements have been recommended for identified intersection impacts. A comprehensive list of these locations is provided in the report. Because the lead agency responsible for these improvements is Caltrans, and the City of Corona cannot guarantee the implementation of the recommended improvements, these impacts are considered ***significant and unavoidable***.

TABLE 1-1
IMPACT SUMMARY TABLE

Intersection	Scenario(s) Where Impact Occurs	Conclusion
16. Magnolia Avenue & I-15 SB Ramps	Future Year (2040) AM & PM	***Significant & Unavoidable***
22. El Cerrito Road & I-15 SB Ramps	Future Year (2040) PM	***Significant & Unavoidable***
23. El Cerrito Road & I-15 NB Ramps	Future Year (2040) PM	***Significant & Unavoidable***

Source: Fehr & Peers, 2018

No level of service impacts have been identified for study roadway segments. No significant impacts have been identified for pedestrian, bicycle, or transit modes.

In addition to the capacity assessment summarized above, the General Plan was evaluated to identify the project impacts related to VMT. The Base Year (2017), Future Year (2040) No Project and Future Year (2040) With Project VMT estimates are summarized in **Table 1-2**. As shown in **Table 1-2**, the Future Year (2040) With Project VMT per service population (VMT/SP) in the General Plan area is anticipated to be higher than the Base Year (2017) VMT/SP and the Future Year (2040) No Project VMT/SP, resulting in VMT related impacts. Travel demand management (TDM) measures have been recommended to reduce the VMT/SP of the Project, but it is unlikely that the VMT/SP can be reduced to below existing conditions; therefore, this impact has been designated a ***significant and unavoidable***.

TABLE 1-2
VMT PER SERVICE POPULATION ANALYSIS

Scenario	2017 Base Year		2040 Future Year No Project		2040 Future Year With Project	
	Total VMT	VMT/SP	Total VMT	VMT/SP	Total VMT	VMT/SP
City of Corona (Citywide) VMT	7,093,655	30.0	8,672,884	32.3	8,674,797	32.3
Sphere of Influence (SOI) Only VMT	1,295,079	31.1	2,701,420	33.8	2,702,890	33.8
Total Corona General Plan Area (Citywide plus SOI) VMT	8,385,277	30.2	11,362,777	32.6	11,366,074	32.6

Source: Fehr & Peers, 2018

2. INTRODUCTION

2.1 PURPOSE OF THE TIS AND STUDY OBJECTIVE

As part of the Environmental Impact Report (EIR), Fehr & Peers has completed a transportation impact study (TIS) for the City of Corona General Plan Update. This report summarizes the methodology, findings, and conclusions of the analyses, including identification of recommended mitigation measures necessary for project impacts, where feasible. This chapter outlines the geographic scope of the transportation impact analysis, including the study area.

2.2 PROJECT DESCRIPTION

The Corona General Plan Update is not proposing any changes in land use across the City, including maintaining residential densities and intensities within general plan land uses. This study evaluates the changes in traffic volumes and operations resulting from the buildout of the general plan land use plan and roadway network.

A summary of land use buildout in the City of Corona General Plan Update is provided in **Table 2-1.** A summary of land use buildout in the City of Corona sphere of influence is provided in **Table 2-2.** A summary of the Base Year (2017) and Build Out Year (2040) population, employment and service population (which is the sum of population and employment) is provided in **Table 2-3**.

The project also includes transportation infrastructure consisting of roadways (including future roadways designated in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and future roadway designations), transit facilities, bicycle facilities, and goods movement facilities. The only proposed change to the circulation element as part of the General Plan update is the Sixth Street road diet that is detailed later in the study. The Draft Transportation & Mobility Element also includes policies intended to accomplish key goals related to mobility, including implementation of future Roadway Capacity Improvements, Roadway Design Standards, Vehicle Miles Traveled, Complete Streets, Transit, and Active Transportation, Goods Movement; and Airports.

TABLE 2-1
CITY OF CORONA GENERAL PLAN PROJECT GROWTH ESTIMATES TO 2040

General Land Use Category	DU[10]	HH[8]	POP[9]	Building Sq. Ft[10]	Employment[11]
Single-Family Residential[1]	3,296	3,191	11,231	-	-
Multi-Family Residential[2]	2,190	2,120	7,462	-	-
Commercial[3]	-	-	-	1,916,457	3,828
Office[4]	-	-	-	521,036	1,561
Industrial[5]	-	-	-	6,929,936	7,290
Public & Institutional Facilities[6]	-	-	-	148,375	744
Agriculture[7]	8	8	27	-	-
Totals	***5,494***	***5,319***	***18,720***	***9,515,804***	***13,423***

Source: City of Corona

1. Single-Family Residential includes: existing and planned Single Family Residential, Rural Residential as well as growth within vacant Estate Residential, Low Density Residential, and Medium Density Residential Land Use Districts.
2. Multi-Family Residential Includes: existing and planned Multi-Family Residential as well as growth within vacant High Density Residential and Urban Density Residential Land Use Districts.
3. Commercial Includes: existing and planned commercial uses as well as growth within vacant Mixed Use 1, Mixed Used Downtown Commercial, and General Commercial Land Use Districts.
4. Office includes: existing and planned office uses as well as growth within vacant Office Park Land Use Districts.
5. Industrial uses include: existing and planned light industrial, general industrial, and mining uses as well as growth within vacant Light Industrial, General Industrial, and Mixed Use 2 Commercial/Residential Land Use Districts.
6. Public & Institutional Facilities include: existing, public, civic, and religious facilities, as well as the planned expansion of the Corona Regional Medical Center.
7. Agriculture includes: existing and planned agricultural uses as well as growth within vacant AG Land Use Districts. 4. Office includes: existing and planned office uses as well as growth within vacant Office Park Land Use Districts.
8. Assumes occupancy rate of 96.8% (Per 2018 DOF)
9. Assumes persons per household rate of 3.52 (Per 2018 DOF)
10. The following factors were used to determine growth in dwelling unit (DU) and building sq. ft. estimates if no entitled project was known. All residential designations assumed mid-point GP densities, AG assumed (1du/5ac), and non-residential areas assumed: General Commercial- 0.35 FAR, Office Park- 1.50 FAR, General Industrial- 0.50 FAR, Light Industrial- 0.50 FAR, Mixed Use 1- 1.00 FAR, Mixed Use Downtown Commercial- 1.50 FAR, Mixed Use 2 Commercial/Industrial- 1.00 FAR.
11. The following Employment Factors were used in City Employment Estimates for existing and projected employment (employees/bldg sf): Commercial (2/1000), Office (3/1000), Industrial (1/1000), Educational Institutions (1/1000), Religious Facilities (1/1000), Public & Recreational Facilities (2/1000). Existing agricultural jobs were estimated at 261, and were not projected to grow. Existing airport jobs were estimated at 50, and were not projected to grow. Existing mining jobs were estimated at 917, and were not projected to grow.

TABLE 2-2
CITY OF CORONA SPHERE OF INFLUENCE PROJECT GROWTH ESTIMATES

General Land Use Category	DU[14]	HH[10]	POP[11]	Building Sq. Ft[14]	Employment[13]
Single-Family Residential[1]	5,096	4,841	17,428	-	-
Multi-Family Residential[2]	846	804	2,893	-	-
Commercial[3]	-	-	-	617,309	1,980
Office[4]	-	-	-	1,094,189	1,893
Industrial[5]	-	-	-	14,969,850	13,134
Public & Institutional Facilities [6]	-	-	-	279,200	581
Public & Recreational Open Space[7]	-	-	-	-	48
Agriculture[8]	23	22	79	-	25
General Open Space[9]	52	49	178	-	72
Totals	***6,017***	***5,716***	***20,578***	***16,960,548***	***17,733***

Source: City of Corona

1. Single-Family Residential includes: existing Single Family Residential, Rural Residential, and Mobile Home as well as growth in vacant areas with the following RivCo Land Uses: Medium Density Residential, Medium High Density Residential, Low Density Residential, Rural Community-Low Density Residential.
2. Multi-Family Residential includes: existing Multi-Family Residential and Mobile Home as well as growth in vacant areas with the following RivCo Land Uses: High Density Residential, High Density Residential, Very High Density Residential.
3. Commercial includes: existing commercial uses as well as growth in vacant areas with the following RivCo Land Uses: CT, Commercial Retail District.
4. Office includes: existing office uses as well as growth within vacant areas with the following RivCo Land Uses: Commercial Office, Business Park.
5. Industrial includes: existing light industrial, heavy industrial, general industrial, and mining uses as well as growth within vacant areas with the following RivCo Land Uses: Light Industrial, Heavy Industrial.
6. Public & Institutional Facilities include: existing public, civic, and religious facilities as well as employment growth in areas with the following RivCo Land Uses: Public Facilities, Commercial Center.
7. Public & Recreational Open Space Includes: existing public open spaces, parks, and Golf Courses as well as employment growth in the following RivCo Land Uses: Open Space Recreation.
8. Agriculture includes: existing agricultural uses as well as growth within vacant areas with the following RivCo Land Uses: Agriculture.
9. General Open Space includes: existing natural open space, open space, and private open space (including the El Sobrante Landfill), as well as growth within vacant areas with the following RivCo Land Uses: Open Space-Conservation, Open Space-Conservation Habitat, Open Space-Rural, Open Space-Mineral Resources (See Note 12 for details).
10. Assumes Occupancy rate of 95% (PerTCAP Projections).
11. Assumes persons per household rate of 3.6 (Per TCAP Projections).
12. The following Employment Factors were used in estimates for existing employment (employees/bldg sf): Commercial (2/1000), Office (3/1000), Industrial (1/1000), Educational Institutions (1/1000), Religious Facilities (1/1000), Public & Recreational Facilities (2/1000). Existing utility facility jobs were estimated at
13. All totals within the Unincorporated SOI are based on the 2016 Draft of the Temescal Canyon Area Plan (TCAP).
14. Building sq. ft. estimates in the Unincorporated SOI are based on methodology described in Appendix E-1 of the County of Riverside General Plan, which was used to generate projections in the 2016 Draft of the Temescal Canyon Area Plan (TCAP).

TABLE 2-3
CITY OF CORONA GENERAL PLAN BASE YEAR AND BUILDOUT YEAR LAND USE SUMMARY

Scenario	Area	Population	Employment	Service Population
Base Year (2017)	City	165,366	70,972	236,338
	Sphere of Influence	37,264	4,346	41,610
	Total	202,630	75,318	277,948
Buildout Year (2040)	City	184,055	84,395	268,450
	Sphere of Influence	57,842	22,079	79,921
	Total	241,897	106,474	348,371

Source: City of Corona

2.3 STUDY AREA

The study area of this analysis includes 34 intersections and eight roadway segments in and around the City of Corona that are anticipated to be affected by the proposed plan. As shown in **Figure 2-1**, the following intersections and roadway segments are evaluated in this traffic study.

Study Intersections:

1. SR-91 WB Ramps & Green River Road *(Caltrans)*
2. SR-91 EB Ramps & Green River Road *(Caltrans)*
3. Palisades Drive & Green River Road *(Corona)*
4. Auto Center Drive & Wardlow Road *(Corona)*
5. Serfas Club Drive & Green River Road *(Corona)*
6. Paseo Grande & Foothill Parkway *(Corona)*
7. Corydon Street & River Road *(Riverside County)*
8. Smith Avenue & Railroad Street *(Corona)*
9. Smith Avenue & Sixth Street *(Corona)*
10. Lincoln Avenue & Sixth Street *(Corona)*
11. Lincoln Avenue & Ontario Avenue *(Corona)*
12. Lincoln Avenue & Foothill Parkway *(Corona)*
13. Magnolia Avenue & Ontario Avenue *(Corona)*
14. I-15 SB On-Ramp & Hidden Valley Parkway *(Caltrans)*
15. I-15 NB Off Ramp & Hidden Valley Parkway *(Caltrans)*
16. I-15 SB Ramps & Indian Truck Trail *(Caltrans)*
17. I-15 NB Ramps & Magnolia Avenue *(Caltrans)*
18. California Avenue & Ontario Avenue *(Corona)*
19. I-15 SB Ramps & Ontario Avenue *(Caltrans)*
20. I-15 NB Ramps & Ontario Avenue *(Caltrans)*
21. California Avenue & Foothill Parkway *(Corona)*
22. I-15 SB Ramps & El Cerrito Road *(Caltrans)*

23. I-15 NB Ramps & El Cerrito Road *(Caltrans)*
24. Temescal Canyon & Cajalco Road *(Corona)*
25. I-15 SB Ramps & Weirick Road *(Caltrans)*
26. I-15 NB Ramps & Weirick Road *(Caltrans)*
27. I-15 SB Ramps & Temescal Canyon *(Caltrans)*
28. I-15 NB Ramps & Temescal Canyon *(Caltrans)*
29. I-15 NB Ramps & Indian Truck Trail *(Caltrans)*
30. I-15 SB Ramps & Indian Truck Train *(Caltrans)*
31. Promenade Avenue & Sixth Street *(Corona)*
32. McKinley Street & Promenade Avenue *(Corona)*
33. SR-91 EB Ramps & McKinley Street *(Caltrans)*
34. McKinley Street & Magnolia Avenue *(Riverside County)*

Roadway Segments:

1. McKinley Street between Griffin Way & Magnolia Avenue *(Corona)*
2. McKinley Street between Promenade Avenue & Griffin Way *(Corona)*
3. Cajalco Road between Masters Drive & I-15 *(Corona)*
4. Lincoln Avenue between Sixth Street & 8th Street *(Corona)*
5. Hidden Valley Parkway between Garland Way & Corona Avenue *(Corona)*
6. Ontario Avenue between California Avenue & State Street *(Corona)*
7. Rimpau Avenue between Magnolia Avenue & Olympic Drive *(Corona)*
8. Green River Road between Crestridge Drive & Dominguez Ranch Road *(Corona)*

2.4 ANALYSIS SCENARIOS

To identify potential significant project impacts, Fehr & Peers analyzed the following two scenarios.

- Base Year (2017) Conditions – Existing traffic volumes and lane geometries were used to evaluate Base Year (2017) Conditions.
- Future Year (2040) General Plan Buildout Conditions – Project traffic volumes generated by the buildout of General Plan were added to the existing traffic volumes to evaluate Future Year (2040) General Plan Buildout Conditions.

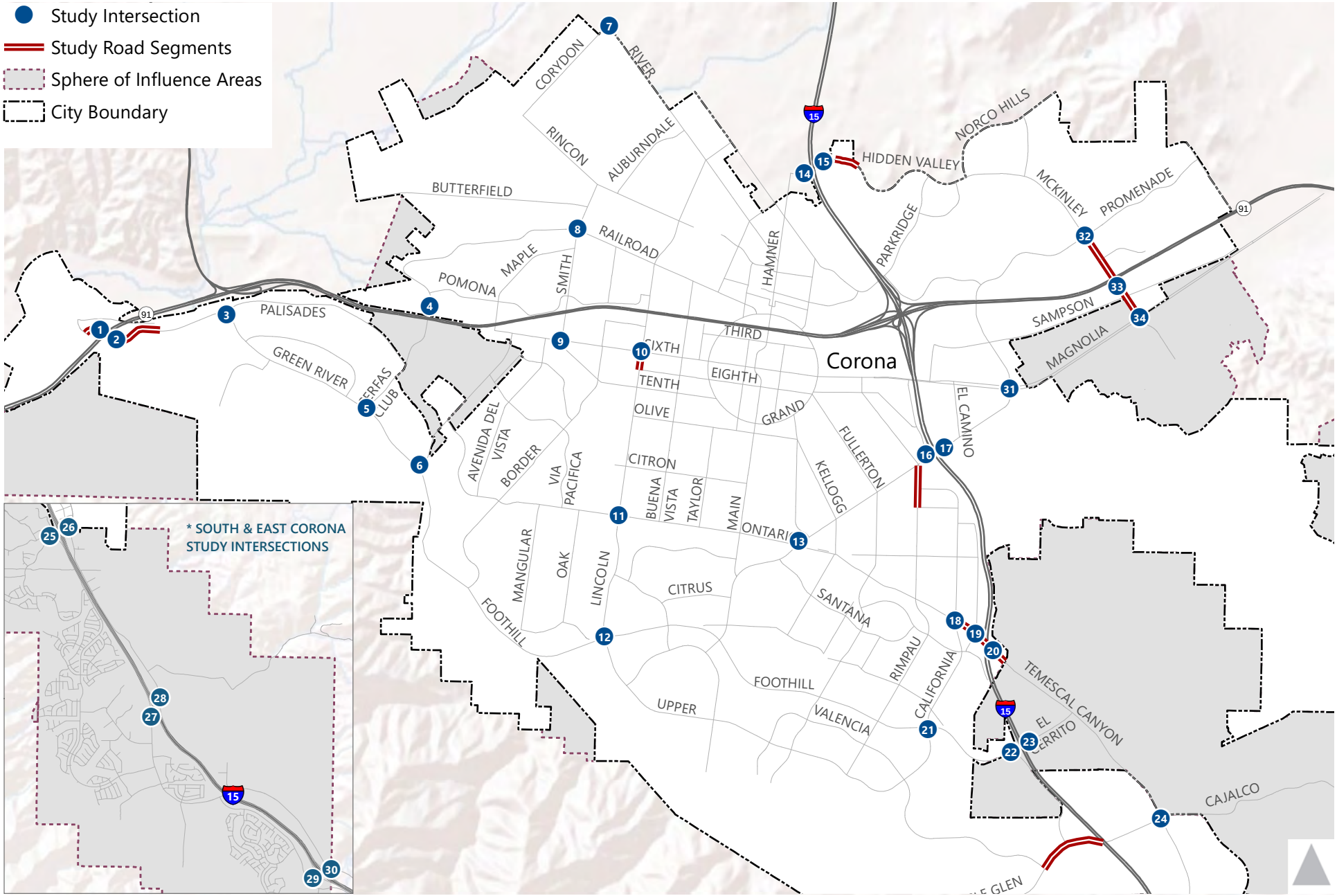


Figure 2-1

Study Intersections and Roadway Segments

3. METHODOLOGY AND IMPACT THRESHOLDS

This chapter discusses the analysis methodology and assumptions used to determine project impacts as approved by the City of Corona.

3.1 LEVEL OF SERVICE CRITERIA

3.1.1 INTERSECTION ANALYSIS

Intersection operating conditions in the study area were evaluated using the Highway Capacity Manual (HCM) 6th Edition Transportation Research Board (TRB) methodology, which is considered the state-of-the-practice methodology for evaluating intersection operations and is consistent with the City of Corona requirements, Caltrans requirements, and the County of Riverside requirements.

The HCM 6th Edition Methodology estimates a quantitative delay at intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in **Table 3-1**.

Trafficware Synchro 10 software package was used to facilitate the HCM 6th Edition calculations. The analysis assumes parameters required by the Riverside County Transportation Commission (RCTC) Congestion Management Program (CMP). The delay, calculated in seconds, was compared to the LOS thresholds outlined in the HCM 6th Edition. For signalized intersections, intersection level of service is determined based on average delay per the standard HCM 6th Edition methodology.

The following factors were applied in the intersection analysis:

- Peak Hour Factor (PHF) was based on traffic counts collected in September and October of 2017 for all Existing Conditions analysis
- PHF for all future analysis was set to 0.95
- Heavy vehicle percentage was set to 2% for all analysis scenarios, unless noted otherwise
- Optimized signal timing for a non-coordinated intersections for existing conditions
- Optimized signal timing for all signalized intersections in future conditions

TABLE 3-1
INTERSECTION LOS CRITERIA

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	< 10.0	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	>10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	>15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	>25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	>35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	>50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2017).

3.1.2 ROADWAY ANALYSIS

The City of Corona Traffic Impact Study Guidelines use volume-to-capacity (V/C) ratios to analyze the level of service (LOS) for roadway segments. The level of service thresholds are defined by the type of roadway, which is indicated by the number of lanes and presence of divider. HCM 6th Edition capacities are assumed for the study roadway segments. These roadway segment capacities are shown in **Table 3-2.**

TABLE 3-2
ROADWAY SEGMENT CAPACITY

Facility Type	Lanes	Capacity
Major Arterial	6	54,300
	4	37,900
	3	28,450
Secondary	4	34,800

Source: Highway Capacity Manual 6th Edition (Transportation Research Board, 2017).

3.2 PERFORMANCE CRITERIA AND THRESHOLDS OF SIGNIFICANCE

3.2.1 INTERSECTION IMPACT CRITERIA

Based on the City of Corona, Caltrans, and the County of Riverside guidelines regarding traffic impact analyses, the following performance criteria and thresholds of significance were used to determine impacts at study facilities:

City of Corona

The city has adopted LOS "D" as the minimum acceptable standard. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS, or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

In accordance with the City's General Plan Circulation Element, the following intersection level of service (LOS) thresholds from the General Plan shall be implemented using the current Highway Capacity Manual (HCM):

- **LOS C** or better shall be maintained for local intersections in residential/industrial areas.
- **LOS D** or better shall be maintained on collector and arterial intersections.
- **LOS E** will be permitted for the following intersections:
    - Lincoln Avenue & SR-91
    - Main Street & SR-91
    - Intersections along Sixth Street between E. Grand Avenue and W. Grand Avenue
    - McKinley Avenue & SR-91
    - Hidden Valley Parkway & I-15
    - Magnolia Avenue & I-15
    - Ontario Avenue & I-15
    - El Cerrito Road & I-15
    - Cajalco Road & I-15
    - Weirick Road & I-15
    - Other locations as approved by the City Engineer

Caltrans

Caltrans' *Local Development-Intergovernmental Review Program Interim Guidance* (November, 2016) supersedes the Caltrans' *Guide for the Preparation of Traffic Impact Studies* (December 2002) which provided LOS targets on state highway facilities and typically limited its recommended mitigation to traditional road improvements. The latest guidance recommends that jurisdictions "consider multimodal solutions to not only improve access to destinations for all system users (motorists, transit riders, bicyclists, pedestrians), but

also encourage efficient land use that helps achieve the multitude of goals sought, including quality of life, economic prosperity, the development of multimodal networks, and GHG emissions reduction." However, since CEQA guidelines have not been fully adopted at the time of this study, local agency thresholds of significance for LOS have been applied for this assessment. For the purpose of this study, LOS D is assumed to be the criteria for I-15 and SR-91 ramp terminal intersections. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS, or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

County of Riverside

The County of Riverside General Plan Circulation Element defines the following LOS standards for determining acceptable operations on its facilities:

- LOS C shall apply to all development proposals in any area of Riverside County not located within the boundaries of an Area Plan, as well those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non-Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.
- LOS E may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.

For the purpose of this assessment, LOS D is defined as the minimum acceptable operating level in the County of Riverside since all the study intersections are within Temescal Canyon Area Plans.

According to the County of Riverside Traffic Impact Analysis Guidelines, the following types of traffic impacts are considered to be "significant" under CEQA:

- When existing traffic conditions exceed the General Plan target LOS.
- When project traffic, when added to existing traffic, will deteriorate the LOS to below the target LOS, and impacts cannot be improved through project conditions of approval.
- When cumulative traffic exceeds the target LOS, and impacts cannot be improved through the TUMF network (or other funding mechanism), project conditions of approval, or other implementation mechanisms.

Congestion Management Plan (CMP)

Riverside County Transportation Commission (RCTC), as the congestion management agency, has set LOS E as the minimum acceptable threshold for CMP facilities. However, the CMP states that local agency thresholds should be applied as long as they provide improved service levels compared to the CMP requirements. Given that the Caltrans LOS standard and adopted LOS standards from the City of Corona exceed the CMP thresholds, the local thresholds will be applied for the impact assessment.

For the purpose of this assessment, LOS D is defined as the minimum acceptable operating level in the City of Corona and County of Riverside.

3.2.2 ROADWAY SEGMENT IMPACT CRITERIA

The city has adopted LOS "D" as the minimum acceptable standard on arterial roadways. A significant traffic impact occurs if the addition of project-generated trips causes a roadway to change from an acceptable LOS to a deficient LOS, or if project traffic increases the volume to capacity ratio at any roadway already operating at an unacceptable LOS. At some key locations, such as at heavily traveled freeway interchanges, LOS E may be adopted as the acceptable standard, on a case-by-case basis. Locations that may warrant the LOS E standard include Lincoln Avenue at SR-91, Main Street at SR-91, McKinley Avenue at SR-91, Hidden Valley Parkway at I-15, Cajalco Road at I-15, and Weirick Road at I-15.

3.2.3 VMT THRESHOLDS

Based on the City's guidelines, a VMT impact caused by the proposed General Plan buildout is considered significant if the buildout daily VMT per service population (VMT/SP) (service population includes population plus employment in the City) exceeds the daily VMT per service population that is currently generated in the City. In addition to the project assessment of VMT, the Cumulative effect on VMT was assessed by comparing the VMT per service population with the proposed General Plan to the VMT per service population from the roadway network assumed in the current General Plan.

3.2.4 TRANSIT, BICYCLE, AND PEDESTRIAN FACILITY IMPACTS

Based on the County's guidelines and the CEQA checklist item (f) listed above, a significant impact would occur to transit, bicycle, and/or pedestrian facilities if the project would:

- Disrupt or interfere with existing or planned public transit services or facilities
- Create an inconsistency with policies concerning transit systems set forth in an applicable General Plan or other applicable adopted policy document

- Disrupt or interfere with existing or planned bicycle/pedestrian facilities
- Result in unsafe conditions for pedestrians, including unsafe pedestrian/bicycle or pedestrian/vehicle conflicts
- Result in unsafe conditions for bicycles, including unsafe bicycle/pedestrian or bicycle/vehicle conflicts
- Create an inconsistency with policies related to bicycle or pedestrian systems set forth in an applicable General Plan, Bicycle Plan, or other applicable adopted policy document

3.3 TRAFFIC VOLUME FORECASTING

The Corona General Plan Travel Demand Forecasting Model (CGPM) was updated for use in developing future volume forecasts for this project. The CGPM is a derivative of the Riverside Traffic Analysis Model (RIVTAM). The original CGPM uses a 2008 Base Year and a 2035 Future Year and Socioeconomic Data (SED) consistent with the SCAG 2012 RTP model outside of the City of Corona, and SED consistent with the General Plan inside the City. As the current version of CGPM is not consistent with the 2016 SCAG RTP/SCS or the General Plan Update, the SED were reviewed for consistency with the 2016 RTP/SCS and General Plan land use assumptions in the study area and updated appropriately based on the comparison. Two model scenarios were utilized in the forecasting process: Base Year (2017) and Future Year (2040).

The Base Year (2017) Model was created by updating the 2008 Base Year CGPM network to show existing conditions (2017). Changes to the future network are consistent with the 2016 RTP/SCS. In the Base Year Model, State Route 91 (SR-91) HOV lanes were modified to reflect the SR-91 Corridor Improvement Project that extended the tolled SR-91 Express Lanes in Orange County to Interstate 15. Toll lane entrances and exits were edited on the freeway links. Along SR-91, the West Grand Boulevard Ramp was removed from the network, the westbound Pomona Road Ramp was relocated to Lincoln Avenue just south of Pomona Road, and the eastbound Lincoln Avenue Ramp was relocated to the newly constructed Second Street. The 2.5 mile Foothill Westerly Extension Project between Lincoln Avenue and Paseo Grande was added to the network as a four-lane road.

The Future Year (2040) Model roadway network was edited consistent with the Base Year (2017) Model and adjusted further for future 2040 conditions, consistent with the SCAG 2016 RTP/SCS.

Sixth Street between West Grand Avenue and East Grand Avenue was modified to reflect the proposed downtown road typology (which includes a lane reduction).

4. EXISTING YEAR (2017) CONDITIONS

This chapter evaluates the Existing Year (2017) Conditions in the project study area including the roadway, transit, and pedestrian networks in order to document the baseline conditions against which the project will be assessed.

4.1 EXISTING ROADWAY NETWORK

The City current roadway system and classifications are shown in **Figure 4-1**. Below is a description of regional and local access roads in Corona.

4.1.1 REGIONAL ROADS

- **Interstate15 Freeway (I-15):** I-15 is an interstate highway that is oriented in the north-south direction. In the vicinity of the project, I-15 is a ten-lane facility. The posted speed limit varies between 70 mph and 65 mph. Access to the project site is provided by Hidden Valley Parkway, Magnolia Avenue, Ontario Avenue, El Cerrito, and Cajalco Road
- **State Route 91 (SR-91):** SR-91 is a state highway that is oriented in the east-west direction. Near the study area, SR-91 is a fourteen-lane facility west of the I-15 interchange and narrows to a nine-lane facility east of the I-15 interchange. The SR-91 express lanes are built in the median of SR-91 and extend from the SR-55 interchange to the I-15 Interchange. The posted speed limit is of this state highway is 65 mph. SR-91 provides access to the northern portion of the city
- **State Route 71 (SR-71):** SR-71 is a 15-mile state highway between Interstate 15/State Route 57 and State Route 91 and is oriented in the north-south direction. Near the study area, SR-71 is a four lane-lane facility. The posted speed limit is 65 mph. SR-71 terminates and connects with SR-91

4.1.2 LOCAL ACCESS ROADS

- **Sixth Street:** Sixth Street is classified as a four-lane mixed-use boulevard, with a two-way center turn lane and class II bicycle lanes. The roadway is an east-west facility that runs from SR-91 to S. Main St. Sixth Street is one of the City's main corridors running through Downtown. The street has a 35 mile per hour (MPH) speed limit and is predominately surrounded by commercial land uses
- **Main Street:** North Main Street is classified as a six-lane major arterial between Hidden Valley Parkway and West Sixth Street. South Main Street is classified as a special residential arterial and four lane major arterial from East Grand Boulevard to Foothill Parkway. The roadway is a north-south facility that connects residences to major points of interest, such as the North Main Corona

Metrolink Train Station. In addition, the street has a 40 MPH speed limit and is surrounded by single family, commercial, and mixed-use land uses

- **Magnolia Avenue:** Magnolia Avenue is classified as a six-lane major arterial between South Main Street and East Sixth Street. The roadway is a northeast-southwest facility that provides access from the City of Corona to SR-91 and the City of Riverside. The roadway has a speed limit of 40 MPH and is surrounded by high density residential, commercial, and mixed-use land uses

- **Ontario Avenue:** Ontario Avenue is classified as a two-lane collector from Paseo Grande to Mangular Avenue and is classified as a four-lane major arterial from Mangular Avenue to South Main Street. From Oak Avenue to State Street, Ontario Avenue is classified as a six-lane major arterial. The roadway is a major east-west corridor that provides access to the neighboring City of El Cerrito and connects to I-15. It includes segments with speed limits of 35 and 45 MPH. The land surrounding the corridor mostly includes single family residential and commercial

- **Cajalco Road:** Cajalco Road is classified as a six lane major arterial from Bedford Canyon Road to the eastern City limits. This roadway is an east-west connector and provides the City of Corona access to The Crossings at Corona – a major shopping center. The roadway has a 45 MPH speed limit and is surrounded by commercial, industrial, and agricultural land uses

- **River Road:** River Road is classified as a four-lane major arterial from Corydon Street to North Main Street. This roadway is northwest-southeast facility and connects the neighboring City of Eastvale to the north. The roadway has a speed limit of 45 MPH and is near a school, single family residences, and high-density residential land use

- **McKinley Street:** McKinley Street is classified as four-lane major arterial from Park View Drive to Promenade and is classified as a six-lane arterial from Promenade to Sampson Avenue. McKinley Street is a north-south facility The roadway has segments with 45 and 35 MPH speed limits. The land use surrounding McKinley Street includes high density residential and commercial

- **Grand Boulevard:** Grand Boulevard, also known as "The Circle," is classified as a four-lane major arterial. The roadway was built in circular fashion and bisects South Main Street, East Sixth Street, North Main Street, and West Sixth Street. Grand Boulevard has a 35 MPH speed limit and has a variety of land uses surrounding it, which include single family residential, high density residential, mixed use, and commercial

- **Green River Road:** Green River Road is classified as a six-lane major arterial from SR-91 to the Palisades Drive and as a four-lane major arterial from Palisades Drive to Paseo Grande. The northwest-southeast facility provides access to SR-91 that connects to Orange County and Riverside. In addition, Green River Road contains a class II bicycle lane that connects to the Santa Ana River Path. Speed limit on Green River Road is 45 MPH, and it is surrounded by high density residential and single-family residential land use

- **Foothill Parkway:** Foothill Parkway is classified as four-lane secondary road from Paseo Grande to I-15. The roadway is an east-west facility that provides an alternative route that connects SR-91 to I-15. The westerly extension of Foothill Parkway was completed in 2016, which extended the four-

lane road from Lincoln Avenue to Paseo Grande, approximately 2.5 miles. The roadway provides additional mobility options for Corona residents, especially those who frequently travel on the southern and western portions of the City. The roadway has a speed limit of 45 MPH and is mainly surrounded by single family residential and some commercial land use

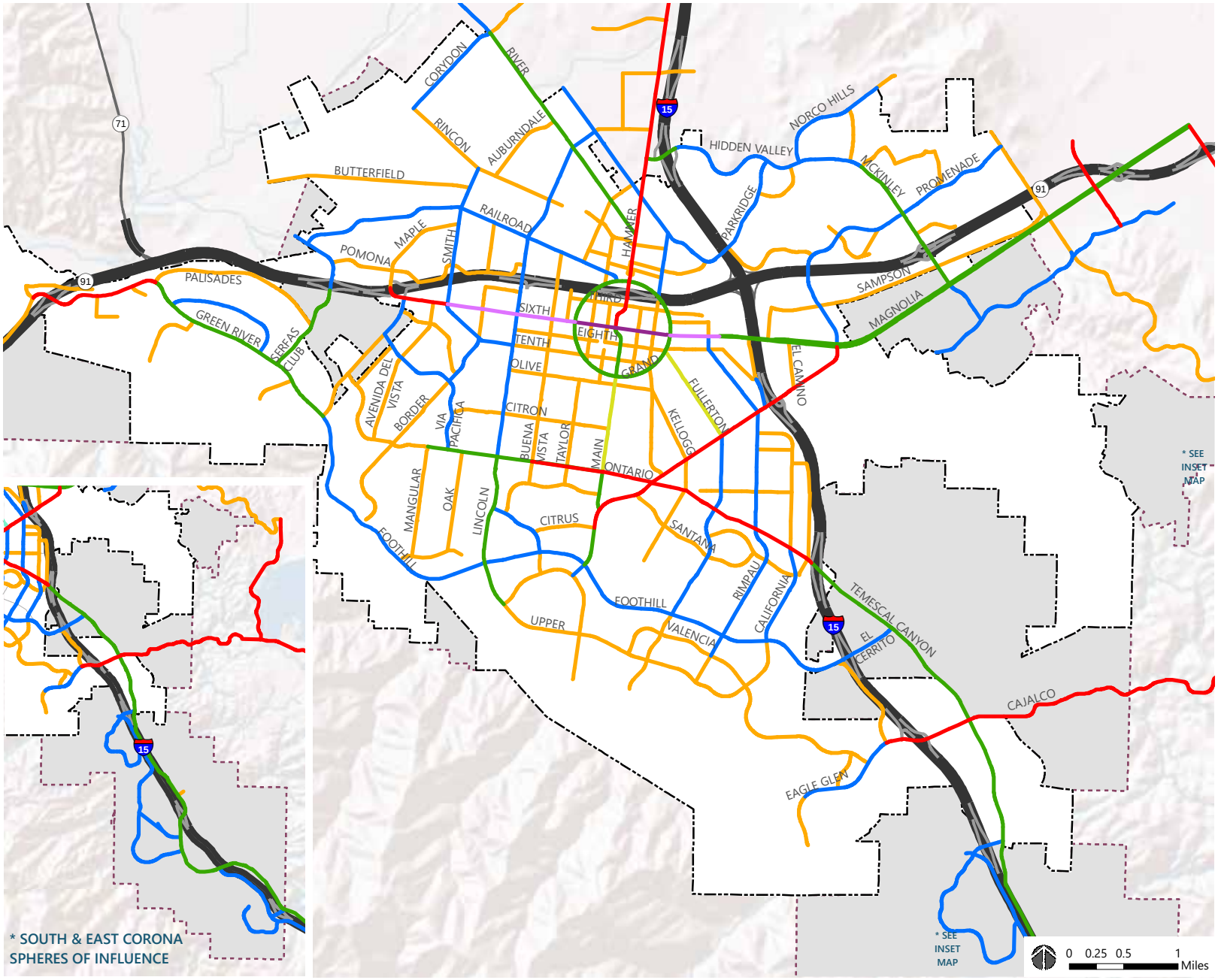
- **El Cerrito Road:** El Cerrito Road is classified as a four-lane secondary road. This roadway is an east west facility that connects to I-15. El Cerrito Road transitions to Foothill Parkway west of I-15. The posted speed limit is 25 MPH. The area near this roadway is mainly residential with access to a school and church

- **Lincoln Avenue:** Lincoln Avenue is classified as a four-lane secondary road form Parkridge Avenue to Ontario Avenue and a four-lane major arterial from Ontario Avenue to Mountain Gate Drive. Lincoln Avenue is north-south facility that connects the City of Corona to SR-91. The roadway has various segments with different speed limits, including 35, 40, and 45 MPH. The land uses surrounding the roadway vary, and include high density residential, single family residential, commercial, and industrial

- **Hidden Valley Parkway:** Hidden Valley Parkway is classified as a four-lane secondary roadway from SR-91 to Parkview Drive. The facility helps connect I-15 and SR-91. The roadway has a speed limit of 45 MPH and is surrounded by high density residential and single-family residential land use

Figure 4-1

Roadway Functional Classifications



Legend

- Mixed Use Boulevard 4 Lane Divided/Undivided
- Mixed Use Boulevard 2 Lane Divided/Undivided
- Major Arterial 6 Lane
- Major Arterial 4 Lane
- Secondary 4 Lane
- Special Residential
- Collector
- Freeway Ramps
- Freeway
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2017

CORONA General Plan

4.2 EXISTING TRANSIT FACILITIES

Public transportation is a vital part of the circulation system within Corona. Transit expands mobility options to citizens that may not be able to afford or physically operate other means of travel, while some choose not to drive. The City provides intercity buses, local buses, demand-responsive service, and commuter rail; all of which help people move. **Table 4-1** summarizes exiting users for local-serving transit services. Corona continues to invest and improve local transit service.

TABLE 4-1
ANNUAL TRANSIT PASSENGER CHARACTERISTICS

Dial-A-Ride			Corona Cruiser		
Seniors/Persons with Disabilities	53,460	87%	Seniors/Persons with Disabilities	50,850	23%
General Public	8,580	8%	General Public	55,935	43%
Metrolink Transfers	1,980	2%	Metrolink Transfers	3,390	1%
Personal Care Attendants	1,320	2%	RTA Transfers	10,170	5%
Children	660	1%	Children	5,085	2%
			Students	44,070	25%
Total Passenger Trips	**66,000**	**100%**		**169,500**	**100%**

Source: City of Corona, Short Range Transit Plan FY 2018 -2020
Note: Total passenger trips are projected in the SRTP using FY12/13 numbers

4.2.1 CORONA CRUISER

The Corona Cruiser is a fixed route service operated by the City of Corona. The system travels along two routes in the City, which include the Red and Blue Lines. Bus routes connect with RTA buses, North Main Metrolink commuter train station, and Park & Ride lots. The local bus service provides access to major points of interest in the community such as Corona City Hall, Corona Public Library, shopping centers, and medical centers. More specifically, major trip generators include commercial and retail areas along McKinley Street and Sixth Street, the Crossings shopping area on Cajalco Road, medical facilities along Magnolia Avenues, El Cerrito Middle School, and Centennial High School.

4.2.2 RIVERSIDE TRANSIT AGENCY (RTA)

Most of the available public transportation is provided by the Riverside Transit Agency (RTA). RTA provides four bus routes to the West Corona Metrolink Station, the City of Fullerton, the City of Murrieta, and the City of Lake Elsinore. Overall, RTA serves the City of Corona, as well as 2,500 square miles in western Riverside County and connects the Cities of Riverside, Norco, and Orange. RTA provides access to the Corona Park-N-Ride Lot, the West Corona Station on the Metrolink Commuter Rail system, and the commuter link express bus route (206) that travels the cities of Corona, Lake Elsinore, Murrieta, and Temecula during the morning and evening peak hours.

4.2.3 METROLINK

Metrolink is a commuter rail program operated by the Southern California Regional Rail Authority (SCRRA), providing service from outlying suburban communities to employment centers such as Burbank, Irvine, and downtown Los Angeles. The 91 Line and the Inland Empire/Orange County Line serve the Metrolink stations in West Corona and North Main Corona. The West Corona station is located on Auto Center Drive near SR-91, and the North Main Corona station is located on Blaine Street that is just east of North Main Street.

The 91 Line provides access between Riverside and Los Angeles, while the Inland Empire/Orange County Line provides access between Irvine and Riverside.

4.2.4 ORANGE COUNTY TRANSPORTATION AUTHORITY (OCTA)

Corona is closely tied to the Orange County and the Riverside job market, which creates a demand for transit service. OCTA has the Riverside/Corona to South Coast Metro Express route 794 that uses the SR-91 and SR-55 freeways to connect the two counties. The bus route is an AM and PM peak hour bus service that connect passengers to South Coast Plaza, Harbor Gateway Business Center, and several universities. OCTA facilitates easy transfers by accepting RTA passes on the 794 bus route.

4.2.5 PARATRANSIT

Paratransit is an alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. Vans, mini-buses, and taxis are typically used to provide paratransit service. Paratransit services vary considerably on the degree of flexibility they provide their customers. At their simplest, they may consist of a taxi or small bus that will run along a more or less defined route and then stop to pick up or discharge passengers on request. At the other end of the spectrum (fully demand-responsive transport), the most flexible paratransit systems offer on-demand call-up door-to-door service from any origin to any destination in a service area.

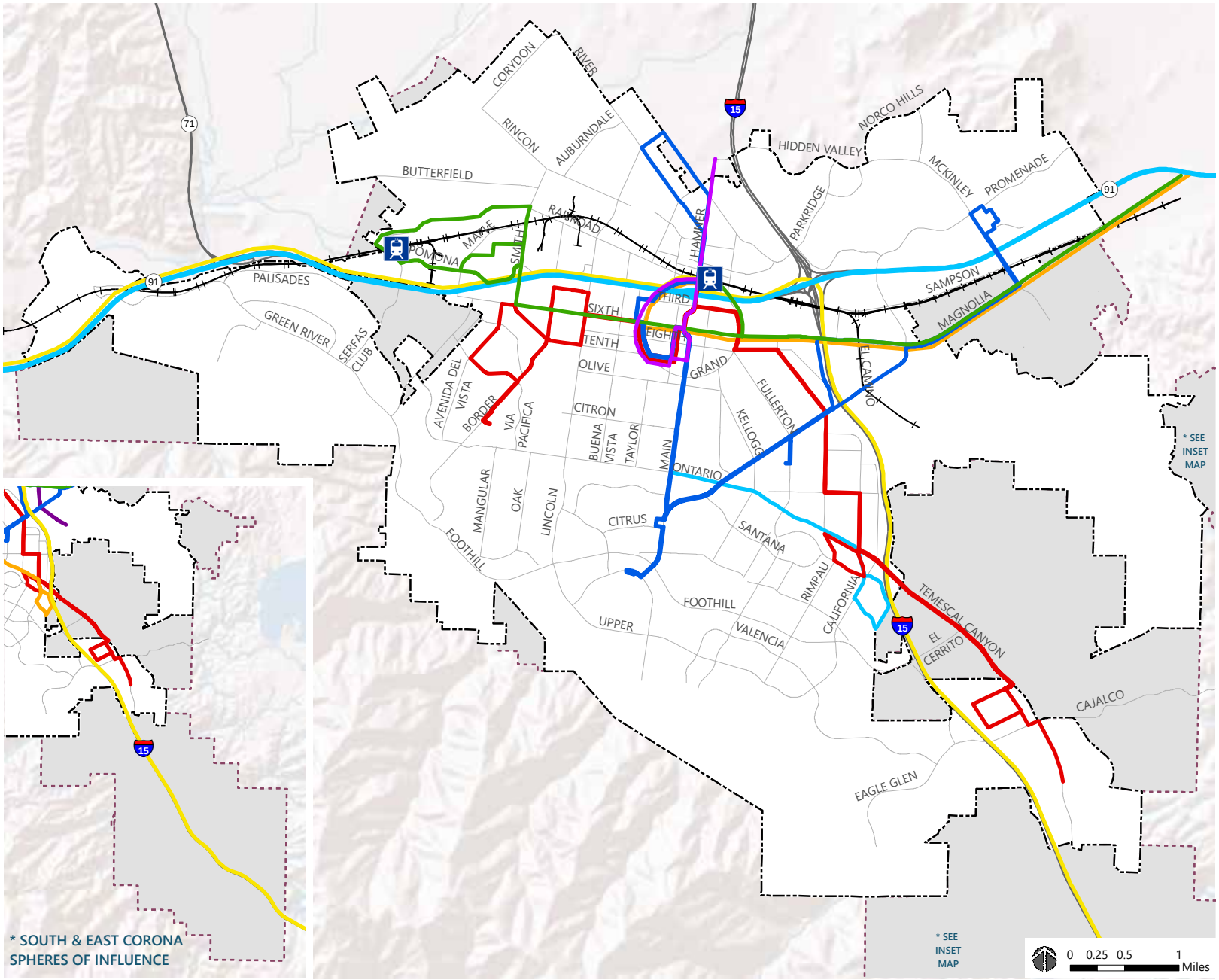


Figure 3-3

Existing Transit Facilities

Legend

- Metrolink Station
- RTA Route 3
- RTA Route 1
- RTA Route 206
- Blue Line
- Red Line
- Gold Line
- OCTA 794
- Railway
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2017

CORONA General Plan

The Dial-A-Ride program, which has been operated by the City of Corona since 1977, is an on-demand, shared-ride transit system. As of January 2018, the service provides mobility to individuals certified under Americans with Disabilities Act (ADA), seniors (60+) and persons with disabilities. Riders call ahead to schedule their trip and can receive curb-to-curb service in the City and neighboring county areas. Dial-A-Ride offers service Monday through Saturday, with $2.50 fares for seniors/disabled/Medicare Card Holders.

4.3 EXISTING BICYCLE FACILITIES

In 2001, the City of Corona developed and adopted a Bicycle Master Plan, which was recertified on March 15, 2006. The Plan calls for bicycle lanes on various streets in order to increase emphasis on active transportation. **Figure 4-3** shows the various existing and planned bikeways for the City of Corona. Improving walking and bicycling facilities can improve their desirability for short distance trips, school trips, and recreational activities, while also enhancing the City's urban environment. By shifting mode share to include higher rates of active travel, the City can reduce greenhouse gas emissions, promoting a healthy lifestyle, consistent with AB 32. The 2006 Bicycle Master Plan proposes bicycle facilities consisting of Class I to Class III throughout the City. Since the adoption of the plan, the City has developed an extensive network of bicycle lanes. **Table 4-2** below summarizes the total number of centerline miles currently existing and the total number of planned miles.

TABLE 4-2
COMPLETED AND PLANNED BIKEWAYS IN CORONA (CENTERLINE MILES)

Bicycle Facility	Completed (miles)	Planned (miles)	Total
Class I (Path)	1.5	19.6	**21.1**
Class II (Bike Lane)	60.4	36.3	**96.7**
Class III (Route)	7.7	36.5	**44.2**
Total	**69.6**	**92.4**	**162.0**

Source: City of Corona, 2017

The sections below describe the different types of bicycle facility classifications currently in use in Corona and recently adopted facilities by Caltrans.

4.3.1 Class I Bikeways (Off-Street Bike Paths)

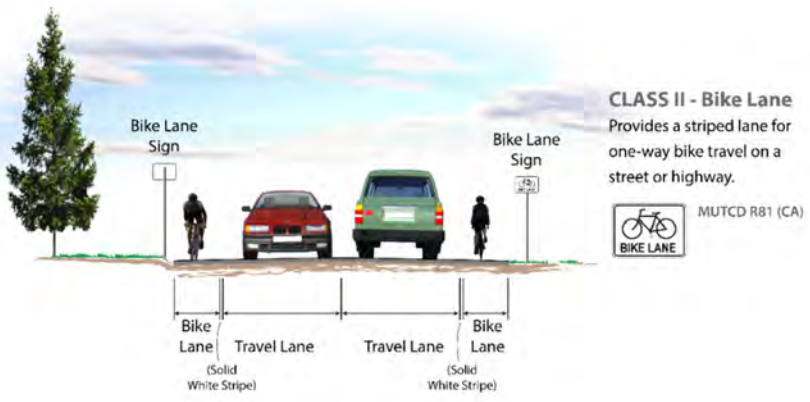
Class I bikeways are completely separate facilities designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings. Currently, Corona has five Class I bikeways at the following locations:

- Parallel to SR-91, entering the Santa Ana River Trail
- A path connecting West Foothill Parkway and Mangular Avenue
- Skyline Drive Path
- Along Foothill Parkway connecting Spring Meadow Drive and Heartland Way
- Along Foothill from Border Avenue to Chase Drive



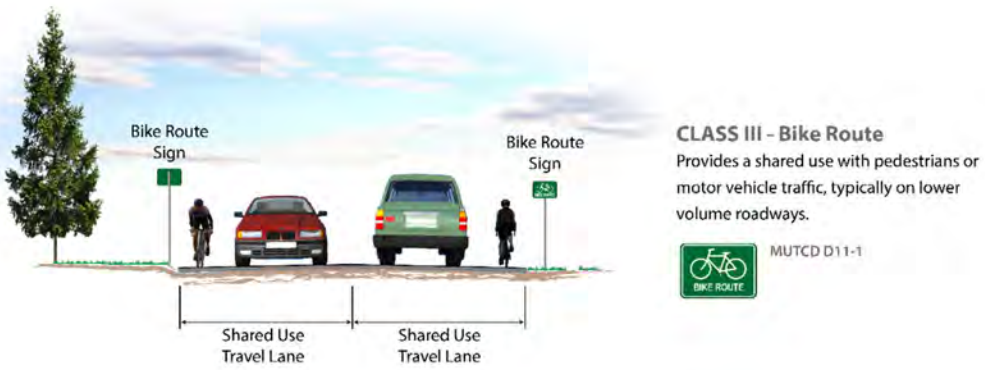
4.3.2 Class II Bikeways (Bike Lanes)

Class II Bikeways are striped lanes designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations. See **Figure 4-3** for all completed and planned bikeways. Class II Bikeways have also been employed as traffic calming measures throughout Corona to assist in narrowing lane widths and limiting vehicle speeds.



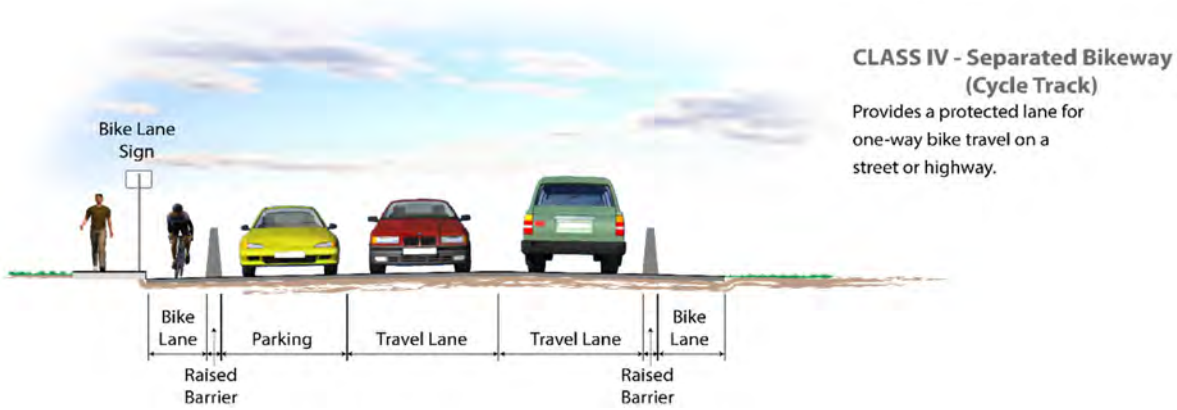
4.3.3 Class III Bikeways (Bike Routes)

Class III Bikeways, also referred to as bike routes, and are only identified by signs or pavement markings. A bicycle route is meant for use by bicyclists and motor vehicle travel (i.e., shared use). See **Figure 4-3** for all completed and planned bike routes in Corona.



4.3.4 Class IV Bikeways (Cycle Tracks)

California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways. Class IV bikeways are protected bike lanes, which provide a right-of-way designated exclusively for bicycle travel within a roadway, protected from vehicular traffic with devices such as curbs, flexible posts, inflexible physical barriers, or on-street parking. Corona does not currently have any Class IV bikeways, but now that Caltrans officially recognizes Class IV bikeways, or "cycle tracks," the City can consider the installation of such bikeways.



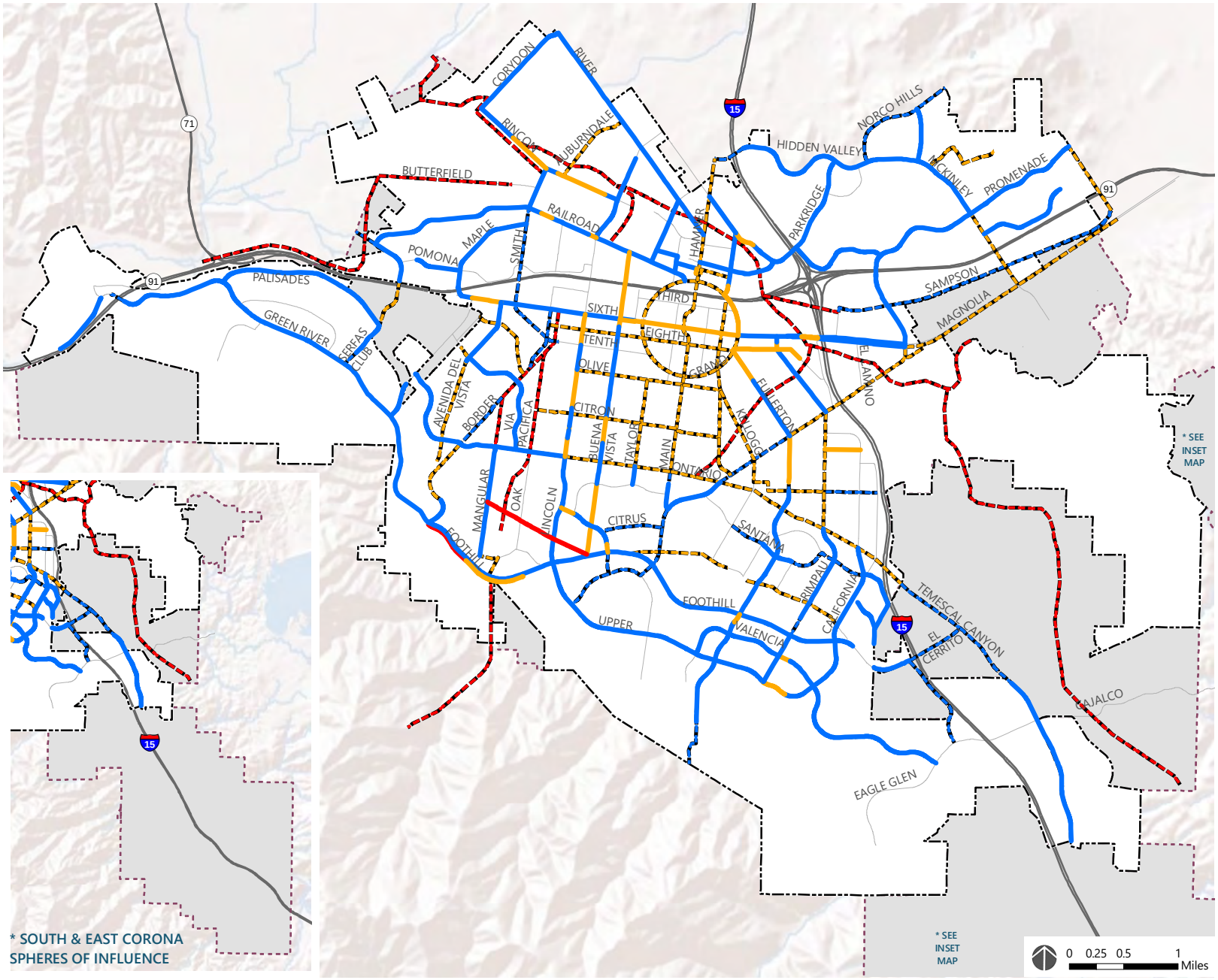


Figure 3-2

Bikeways

Legend

- Existing Class I
- Existing Class II
- Existing Class III
- Proposed Class I
- Proposed Class II
- Proposed Class III
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2017

CORONA General Plan

4.4 EXISTING PEDESTRIAN FACILITIES

The suburban tract housing layout, ample parking, major through streets, and separation of land uses that comprise a notable portion of the city has encouraged an automobile-oriented community. Although walking may not be a viable form of transportation for errand trips, large neighborhood sidewalks provide a walking environment that accommodates walking trips for leisure and exercise. Six factors that affect walkability and the pedestrian experience in the city at large have been analyzed, including:

- **Sidewalk Continuity** – Communities are more walkable if sidewalks do not end abruptly and are present on the entire segment and both sides of a roadway. This is especially important for mobility-impaired users or those pushing small children in strollers.
- **Sidewalk Conditions** – This refers to the physical condition of sidewalk surfaces. Sidewalks that are broken or cracked can deter walkability and pose a safety hazard; particularly for mobility-impaired users, such as those in wheel chairs, persons using walkers, or strollers.
- **Shading** – Persons are more inclined to walk in areas where there is shade present, particularly in Southern California with its relatively warm weather and limited rainfall, as compared to other locations. Additionally, shade trees create an aesthetic value that is pleasing to the pedestrian.
- **Grade** – Persons are more inclined to walk in areas that are relatively flat or have limited grade changes.
- **Amenities** – All else being equal, persons are more inclined to walk in areas that are interesting environments with shopping, retail, restaurants, and other similar uses. Pedestrian-friendly amenities include street furniture, attractive paving, high visibility crosswalks, frequent crossings, slower vehicle speeds, way-finding signage, enhanced landscaping, and pedestrian-level lighting.
- **Buffers** – A more walkable environment includes some degree of separation between the pedestrian and the motorist. This typically includes wider sidewalks, street parking, and sidewalk bulb-outs at intersections where feasible. Crosswalks with appropriate signage serve as an important buffer as well.

A general evaluation of the pedestrian environment in Corona is provided in **Table 4-1**. The City has a solid foundation of pedestrian facilities but can improve the most in the area of *amenities offered*. Land use is inherently tied to transportation and policies should support development that makes it attractive, easy, and safe to walk. In addition, the City can complement and enhance the pedestrian sidewalk experience with treatments such as high-visibility crosswalks, mid-block crosswalks, curb extensions, curb cuts, and landscaping. These types of treatments can improve accessibility and safety for non-driving populations, such as older adults and children, who may use routes for short distance trips, including recreation and school trips.

TABLE 4-1
EXISTING PEDESTRIAN FACILITIES

Criteria	Evaluation
Sidewalk Continuity	Most major roadways in Corona have continuous sidewalks on one or both sides. Most residential streets also have continuous sidewalks on both sides of the street.
Sidewalk Conditions	Throughout the City, sidewalks are generally in good condition, free of cracks, fissures, or uplift. The City of Corona has also made improvements to sidewalks in older neighborhoods that lack accessibility. A limited number of sidewalks with cracked pavement were observed. Sidewalks are generally wide enough to accommodate multiple users, though in some cases there are obstructions due either to various utility boxes or overgrown landscaping. The City is currently undertaking Citywide sidewalk improvements.
Shading	Generally, shading on Corona sidewalks is extensive. Most shading is provided in central parts of the City, such as Downtown. There is also extensive shading throughout the city, including suburban tracts. Some shade is provided by trees on private properties adjacent to sidewalks. In few cases, there is no shading whatsoever.
Grade	Several of the major arterials in Corona have slopes, especially in southern portions of the City. Some residential streets have significant grade, while some near downtown are relatively flat. Land areas with limited slope can encourage more active forms of transportation.
Amenities Offered	Portions of Sixth Street provide a mix of land uses that can make walking trips more attractive. A significant portion of the bus stops in Corona offer pedestrian-oriented amenities such as a bench or a shaded bus shelter. There are also a number of bus stops with aging facilities or no shade. The City has few traffic calming amenities on neighborhood streets which can make walking less attractive, especially for children or older adults.
Buffers	Parking is generally not permitted along major arterials of Corona. Buffers that exist consist of bike lanes and some landscaping, such as trees or parkways, between sidewalks and automobile travel lanes. Bike lanes on streets such as East Harrison Street provide a buffer between sidewalks and moving vehicle traffic. On some City sidewalks, such as West Second Street, sidewalks lack a buffer between the pedestrian right-of-way and vehicle travel lane.

Source: Fehr & Peers, 2017

4.5 EXISTING AIRPORTS

The Corona Municipal Airport (formerly L66) is a public recreational use facility located approximately three miles northwest of Downtown Corona, serving Riverside County. The Airport has one asphalt runway and the property covers about 98 acres. In 2015, aircraft operations were at 50,000, with about 70% of the flights being local general aviation and 30% of flights going from Corona to other jurisdictions. The airport is operated by the City of Corona and the land is owned by the Army Corps of Engineers. Jurisdiction of the Airport is under the Maintenance Services Department.

4.6 EXISTING GOODS MOVEMENT FACILITIES

Goods movement is necessary for the vitality of Corona and the region as a whole. Goods movement in the City occurs primarily by trucks on major freeways that bisect the City, including SR-91 and I-15. Truck traffic on City streets is restricted to specific routes that are designated for thru-traffic of trucks over three tons. Trucks are allowed on designated routes even if they do not have an origin or destination within the City. **Figure 4-4** displays the truck route system.

Table 4-4 has information on the total truck traffic on SR-91 that goes through Corona. Truck traffic on the freeway made up about six to seven percent of total daily travel in 2015. There are approximately 14,000 to 16,000 trucks traversing Corona each day on local freeways.

TABLE 4-4
TRUCK TRAFFIC VOLUMES ON STATE ROUTE 91 AND 15 FOR 2015

Description	Vehicle Annual ADT	Truck AADT	Truck – Percent of Total
SR-91/Main St Interchange	247,000	16,080	6.51%
SR-91/Main St Interchange	233,000	14,120	6.06%
SR-91/McKinley St Interchange	219,000	14,804	6.76%
SR-91/McKinley St Interchange	209,000	16,072	7.69%
SR-15/SR-91	187,000	10,492	5.61%

Source: Caltrans, Annual Average Daily Truck Traffic on the California State Highway System, 2015

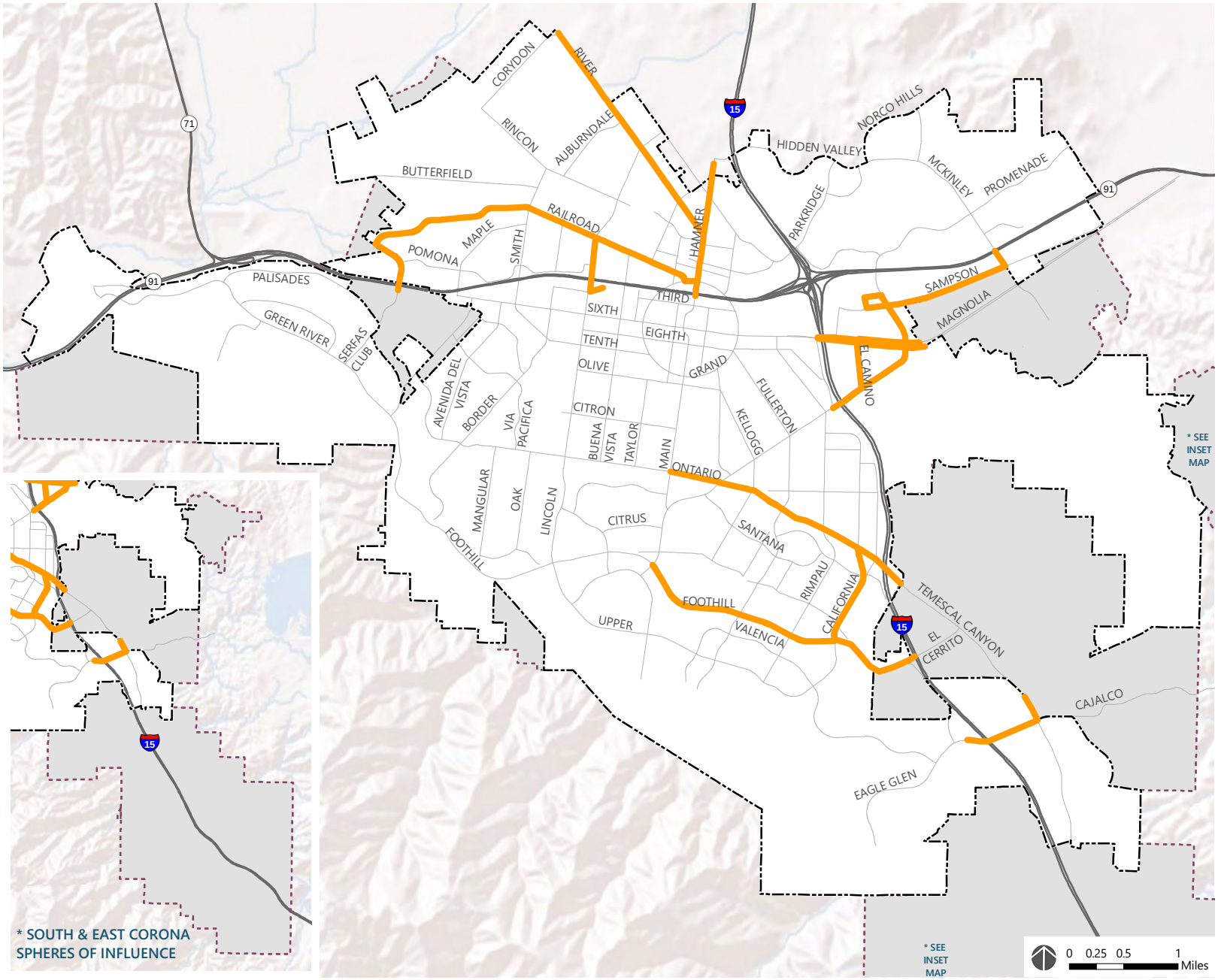


Figure 4-4

Existing Truck Routes

Legend

- City Designated Truck Routes
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2017

CORONA General Plan

4.7 TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing Year (2017) Conditions AM peak period (6:00am to 8:00am) and PM peak period (4:00pm to 6:00pm) intersection counts were collected at 34 study intersections throughout the city in October 2017. Daily roadway segment counts were collected at eight locations throughout the County in October 2017. All traffic counts were collected during typical weekdays with clear weather and when school was in session. Traffic counts for this study were provided for by the City of Corona.

Existing (peak hour traffic volumes and lane configurations for the study intersections are shown on **Figure 4-5**.

As part of the field inventory, Fehr & Peers also collected the following information:

- Lane configurations
- Signal phasing
- Land uses in the study area
- Existing pedestrian and bicycle facilities
- On-street parking conditions

4.8 INTERSECTION OPERATIONS ANALYSIS

Existing traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for existing AM and PM peak hour conditions. The results summarized in **Table 4-5** show vehicular LOS at the study intersections. The Existing LOS report is provided in **Appendix A**.

As shown in **Table 4-1**, most of the study intersections currently operate at acceptable levels of service. The following study intersections currently operates at a deficient LOS during the peak hours:

21. California Avenue & Foothill Parkway – PM Peak Hour (LOS F)
24. Cajalco Road & Temescal Canyon Road – PM Peak Hour (LOS E)
28. Temescal Canyon Road & I-15 Northbound Ramps – AM Peak Hour (LOS E)
31. Sixth Street & Promenade Avenue – PM Peak Hour (LOS F)
32. McKinley Street & Promenade Avenue – PM Peak Hour (LOS F)
34. McKinley & Sixth Street/Magnolia Avenue – PM Peak Hour (LOS E)

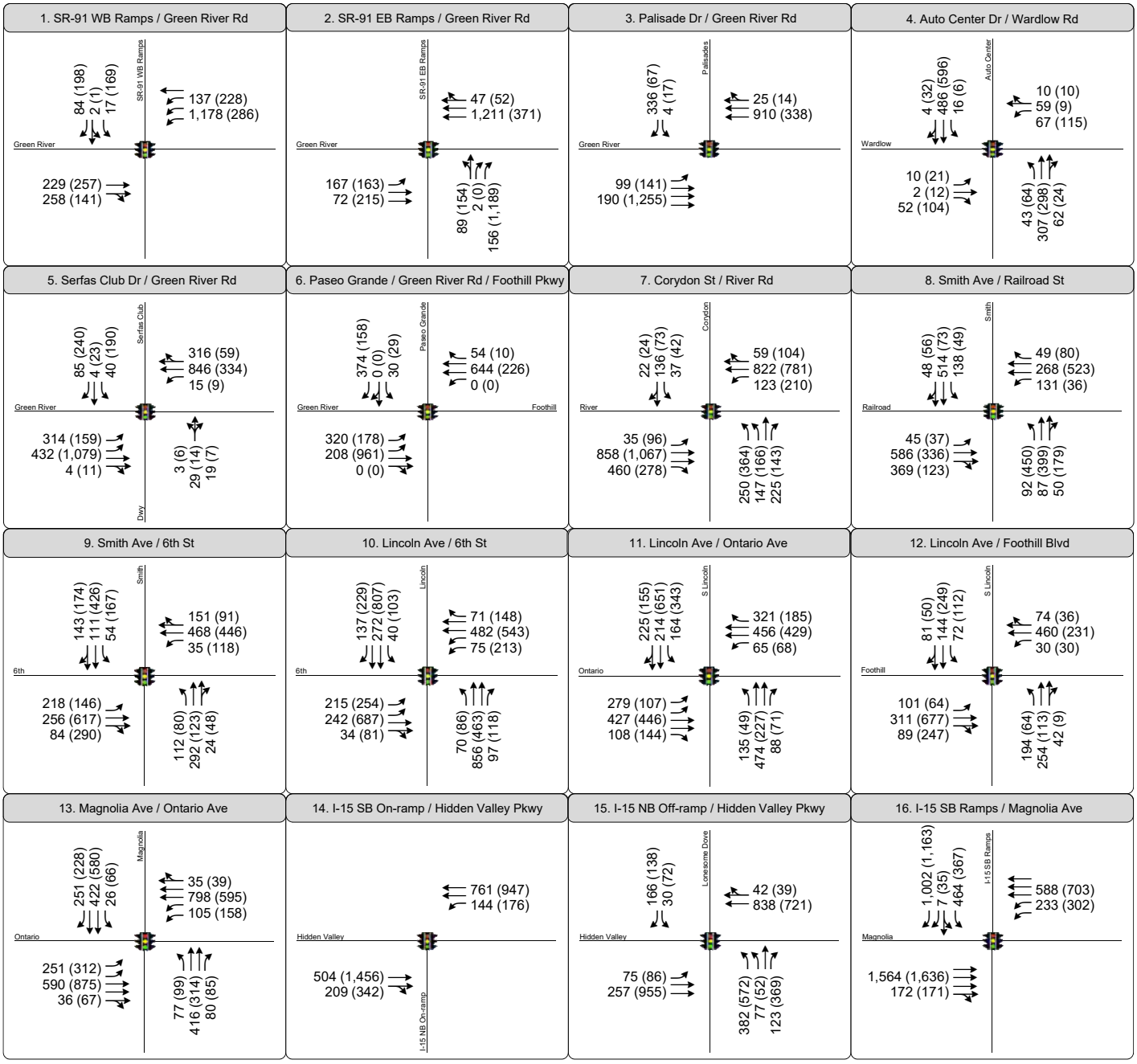


Figure 4-5

Peak Hour Traffic Volumes and Lane Configurations - Existing Year (2017) Conditions

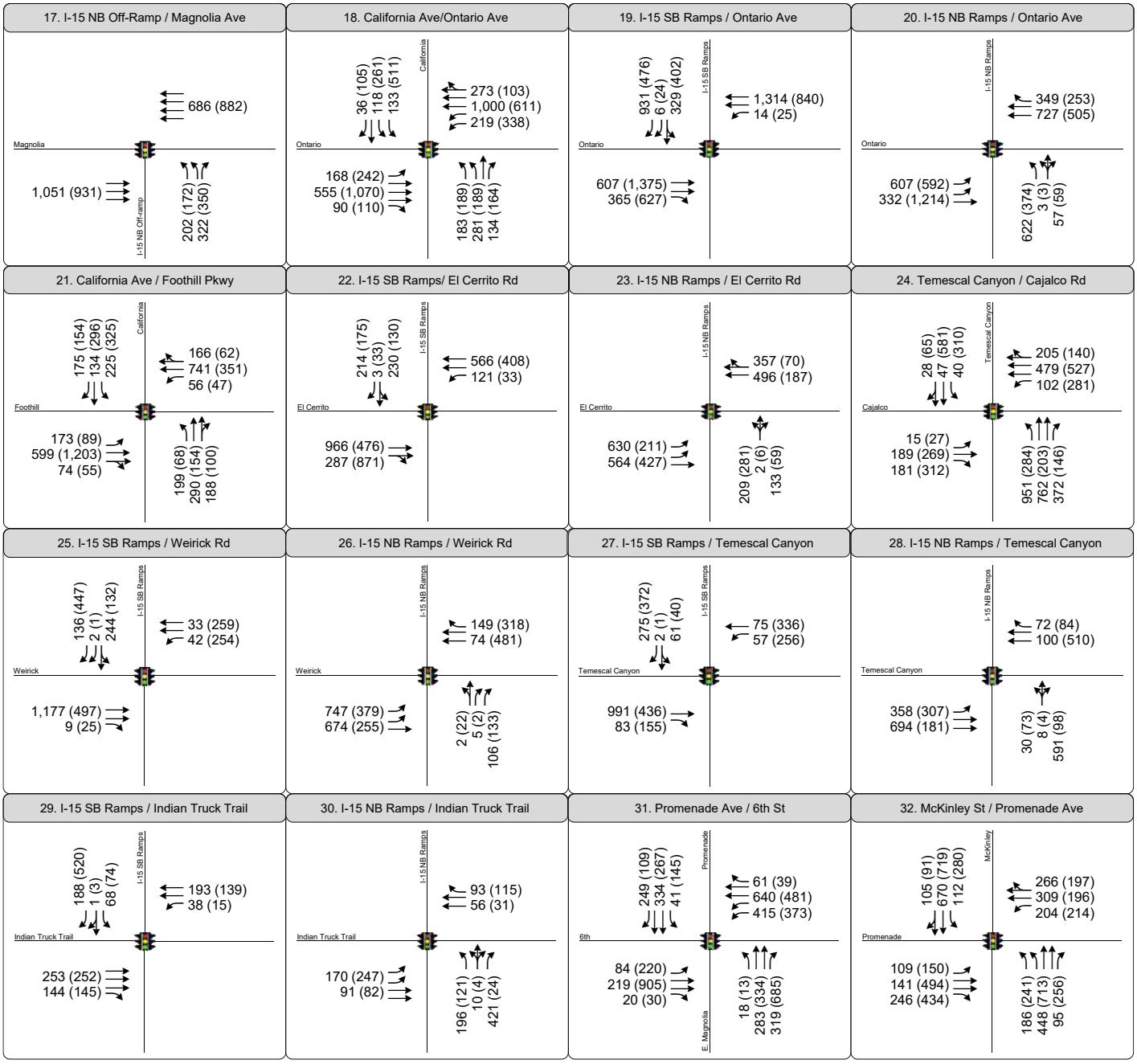


Figure 4-5

Peak Hour Traffic Volumes and Lane Configurations - Existing Year (2017) Conditions

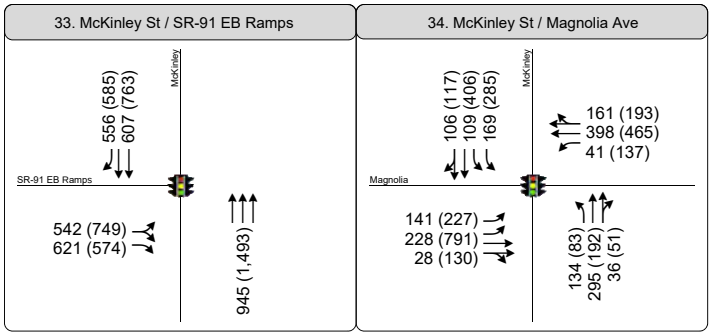


Figure 4-5

Peak Hour Traffic Volumes and Lane Configurations - Existing Year (2017) Conditions

TABLE 4-5
EXISTING YEAR (2017) CONDITIONS INTERSECTION OPERATIONS

Intersection		Jurisdiction	Peak Hour	Existing Year (2017)	
				Delay	LOS
1	Green River Rd & SR-91 WB	Caltrans	AM	21	C
			PM	17	B
2	Green River Rd & SR-91 EB	Caltrans	AM	14	B
			PM	29	C
3	Green River Rd & Palisades Dr	Corona	AM	12	B
			PM	7	A
4	Auto Center Dr & Wardlow Rd	Corona	AM	14	B
			PM	30	C
5	Green River Rd & Serfas Dr	Corona	AM	17	B
			PM	16	B
6	Foothill Blvd & Paseo Grande	Corona	AM	6	A
			PM	5	A
7	River Rd & Corydon St	Riverside County	AM	33	C
			PM	41	D
8	Railroad St & Smith Ave	Corona	AM	25	C
			PM	23	C
9	Sixth St & Smith Ave	Corona	AM	30	C
			PM	38	D
10	Sixth St & Lincoln Ave	Corona	AM	32	C
			PM	35	D
11	Ontario Ave & Lincoln Ave	Corona	AM	29	C
			PM	33	C
12	Foothill Blvd & Lincoln Ave	Corona	AM	25	C
			PM	36	D
13	Ontario Ave & Magnolia Ave	Corona	AM	28	C
			PM	38	D
14	Hidden Valley Pkwy & SB I-15	Caltrans	AM	7	A
			PM	3	A
15	Hidden Valley Pkwy & NB I-15	Caltrans	AM	23	C
			PM	47	D
16	Magnolia Ave & I-15 SB	Caltrans	AM	42	D
			PM	37	D
17	Magnolia Ave & I-15 NB	Caltrans	AM	27	C
			PM	30	C
18	Ontario Ave & California Ave	Corona	AM	30	C
			PM	46	D
19	Ontario Ave & I-15 SB	Caltrans	AM	17	B
			PM	28	C
20	Ontario Ave & I-15 NB	Caltrans	AM	34	C
			PM	34	C
21	California Ave & Foothill Parkway	Corona	AM	37	D

TABLE 4-5
EXISTING YEAR (2017) CONDITIONS INTERSECTION OPERATIONS

Intersection		Jurisdiction	Peak Hour	Existing Year (2017)	
				Delay	LOS
			PM	**87**	**F**
22	El Cerrito Rd & I-15 SB Ramps	Caltrans	AM	25	C
			PM	11	B
23	El Cerrito Rd & I-15 NB Ramps	Caltrans	AM	31	C
			PM	19	B
24	Cajalco Rd & Temescal Canyon	Corona	AM	53	D
			PM	**69**	**E**
25	Weirick Rd & I-15 SB Ramps	Caltrans	AM	24	C
			PM	28	C
26	Weirick RD & I-15 NB Ramps	Caltrans	AM	15	B
			PM	25	C
27	Temescal Canyon & I-15 SB Ramps	Caltrans	AM	26	C
			PM	7	A
28	Temescal Canyon & I-15 NB Ramps	Caltrans	AM	**70**	**E**
			PM	8	A
29	Indian Truck Trail & I-15 SB Ramps	Caltrans	AM	38	D
			PM	6	A
30	Indian Truck Trail & I-15 NB Ramps	Caltrans	AM	20	B
			PM	6	A
31	Sixth & Promenade Ave	Corona	AM	29	C
			PM	**100**	**F**
32	McKinley St & Promenade Ave	Corona	AM	30	C
			PM	**113**	**F**
33	McKinley St & SR-91 EB Ramps	Caltrans	AM	18	B
			PM	26	C
34	McKinley St & Magnolia Ave	Riverside County	AM	26	C
			PM	**71.9**	**E**

Notes:
1. Delay is calculated using Synchro using HCM 6 Methodology
2. **Bold** type indicates LOS exceeds desired level.
3. The intersection of Bob Hope Drive and A Street does not exist in this scenario.
Source: Fehr & Peers, 2018

4.9 ROADWAY SEGMENT OPERATION ANALYSIS

ADT counts were used to evaluate roadway segment operations at the study locations for Existing Year (2017) Conditions. The results for this analysis are summarized in **Table 4-6** and indicate that most of the study roadway segments currently operate at an acceptable level of service, except for the following locations:

1. McKinley Street between Griffin Way & Magnolia Avenue – LOS F
3. Cajalco Road between Masters Drive & I-15 – LOS E

TABLE 4-6
EXISTING YEAR (2017) CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

	Roadway	Segment	Roadway Classification	Existing		
				ADT	V/C	LOS
1	McKinley Street	Griffin Wy & Magnolia Ave	4-Lane Major Arterial	52,200	**1.38**	**F**
2	McKinley Street	Promenade Ave & Griffin Wy	4-Lane Major Arterial	27,700	0.73	C or Better
3	Cajalco Road	Masters Dr & I-15	3-Lane Major Arterial	26,300	**0.92**	**E**
4	Lincoln Avenue	Sixth St & 8th St	4-Lane Secondary	24,500	0.70	C or Better
5	Hidden Valley Parkway	Garland Wy & Corona Ave	4-Lane Secondary	23,700	0.68	C or Better
6	Ontario Avenue	California Ave & State St	6-Lane Major Arterial	47,000	0.87	D
7	Rimpau Avenue	Magnolia Ave & Olympic Dr	4-Lane Secondary	18,300	0.53	C or Better
8	Green River Road	Crestridge Dr & Dominguez Ranch Rd	6-Lane Major Arterial	23,600	0.43	C or Better

Notes:
1. Roadway segment operating below acceptable LOS are noted in **bold**.
2. 4-Lane Secondary capacity = 34,800 veh/day, 3-Lane Major Arterial capacity = 28,450 veh/day, 4-Lane Major Arterial capacity = 37,900 veh/day, 6-Lane Major Arterial capacity = 54,300 veh/day

Source: Fehr & Peers, 2018

5. FUTURE YEAR (2040) GENERAL PLAN BUILDOUT CONDITIONS

This chapter presents the Future Year (2040) General Plan Buildout Conditions for the development. This scenario consists of traffic generated by the proposed project added to the Existing Year (2017) Conditions. This will be used to evaluate the net change in traffic conditions and to identify any potential significant project impacts.

5.1 FUTURE YEAR ROADWAY IMPROVEMENT ASSUMPTIONS

The planned roadway improvements assumed in Future Year (2040) General Plan Buildout Conditions are consistent with improvements assumed in the SCAG 2016 RTP/SCS, and with adjacent development project plans. The following projects are assumed to be completed by 2040:

- RTP ID RIV010208: Widen Cajalco Road from Temescal Canyon Road to Bedford Canyon Road from two through lanes to six through lanes. This includes the design, reconstruction, and widening of the Interstate 15 (I-15) ramps along Cajalco Road. The southbound on-ramp will be reconstructed from one lane to two lanes and the I-15 southbound off ramp will be reconstructed from two lanes to five lanes. The I-15 northbound on-ramp will be reconstructed from one lane to two lanes and the I-15 northbound off ramp will be reconstructed from two lanes to four lanes. Axillary lanes will be added between the I-15 northbound and southbound ramps near El Cerrito Road
- RTP ID 3A04WT030: Widen Main Street from south of East Grand Boulevard to Ontario Avenue from two lanes to four lanes
- RTP ID 3A04WT032: Widen Railroad street from Sherman Avenue to Main Street at Grand Avenue from two lanes to four lanes
- RTP ID RIV071267: Construct four toll express lanes (two in each direction) on I-15 between SR-60 to Hidden Valley Parkway and construct two tolled express lanes (one in each direction) from Hidden Valley Parkway to Cajalco Road
- RTP ID 3160001: Construct two toll express lanes (one in each direction) on I-15 between Cajalco Road to SR-74
- RTP ID 3160002: Construct two HOV lanes (one in each direction) on I-15 between SR-74 to Junction I-15/I-215
- RTP ID RIV011240: Construct a grade separation on McKinley Street at BNSF Railroad crossing

Transportation Uniform Mitigation Fee (TUMF) is a program that ensures a fair share payment for increased traffic generated by new development projects. There are TUMF funded projects in Corona along Temescal Canyon Road and Ontario Avenue. The following improvements are assumed to be completed by 2040:

- Widen Temescal Canyon Road between First Street and El Cerrito Road to six lanes. Widen Temescal Canyon Road between El Cerrito Road to Interstate 15 ramps to four lanes
- Widen Ontario Avenue between Interstate 15 ramps and El Cerrito Road from four lanes to six lanes

The City of Corona is planning the following improvements to maintain acceptable level of service within the city as new development occurs through general plan policies and/or conditions of approval:

- Implement a road diet on Sixth Street in the downtown area that will reduce the number of travel lanes from four to two and will provide angled parking on both sides of the street. This will also convert north/south streets of Crawford Street, Merrill Street, Sheridan Street, Ramona Avenue, Victoria Avenue, Howard Street, Joy Street, and Fuller Street as one-way streets
- Restripe the northbound approach on Smith Avenue of the Sixth Street and Smith Avenue intersection to include two left-turn lanes and a shared through-right-turn lane
- Design the northbound right-turn on Sixth Street and Magnolia Avenue/Promenade Avenue as a free channelized right-turn lane
- Restripe the southbound approach at Foothill Parkway and California Avenue to include a shared through-right and two left turn lanes
- As conditioned by a new development project, add an additional southbound left-turn lane on McKinley Street at the McKinley Street and Promenade Avenue intersection
- Widen Ontario Avenue at I-15 to six lanes (Compton Avenue to State Street) as part of the I-15 interchange improvement project

5.2 INTERSECTION OPERATION ANALYSIS

Forecast traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for the Future Year (2040) AM and PM peak hour conditions. **Figure 5-1** shows the Project intersection traffic volumes and lane configurations. The results summarized in **Table 5-1** show vehicular LOS at the study intersections. The Future LOS report is provided in **Appendix A**.

As shown in **Table 5-1**, most of the study intersections are forecast to operate at acceptable levels of service. The following study intersections are forecast to operate at a deficient LOS during the peak hours:

16. Magnolia Avenue & I-15 Southbound Ramps – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
22. El Cerrito Road & I-15 Southbound Ramps – PM Peak Hour (LOS F)
23. El Cerrito Road & I-15 Northbound Ramps- AM Peak Hour (LOS F)

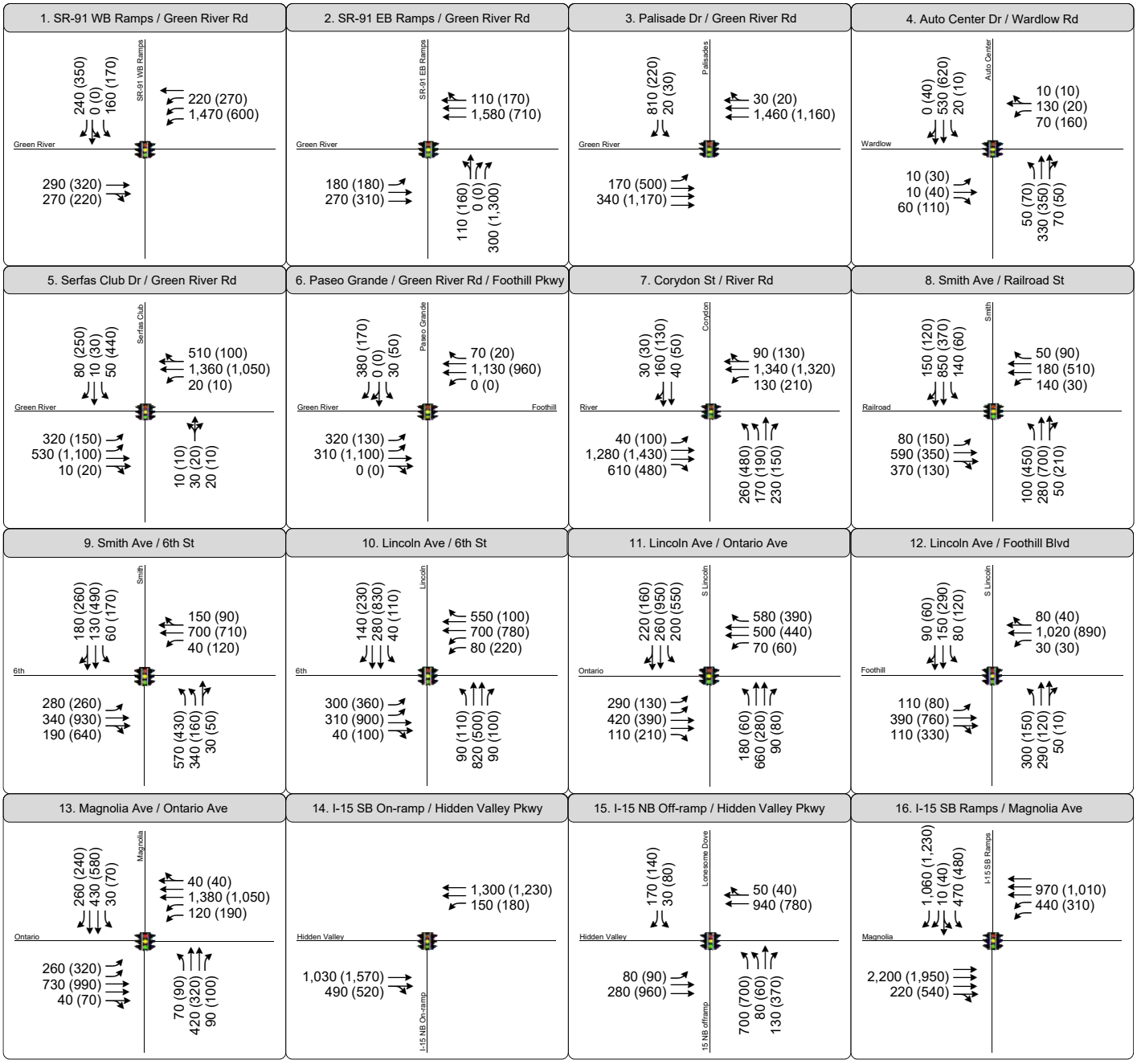


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040) General Plan Buildout Conditions

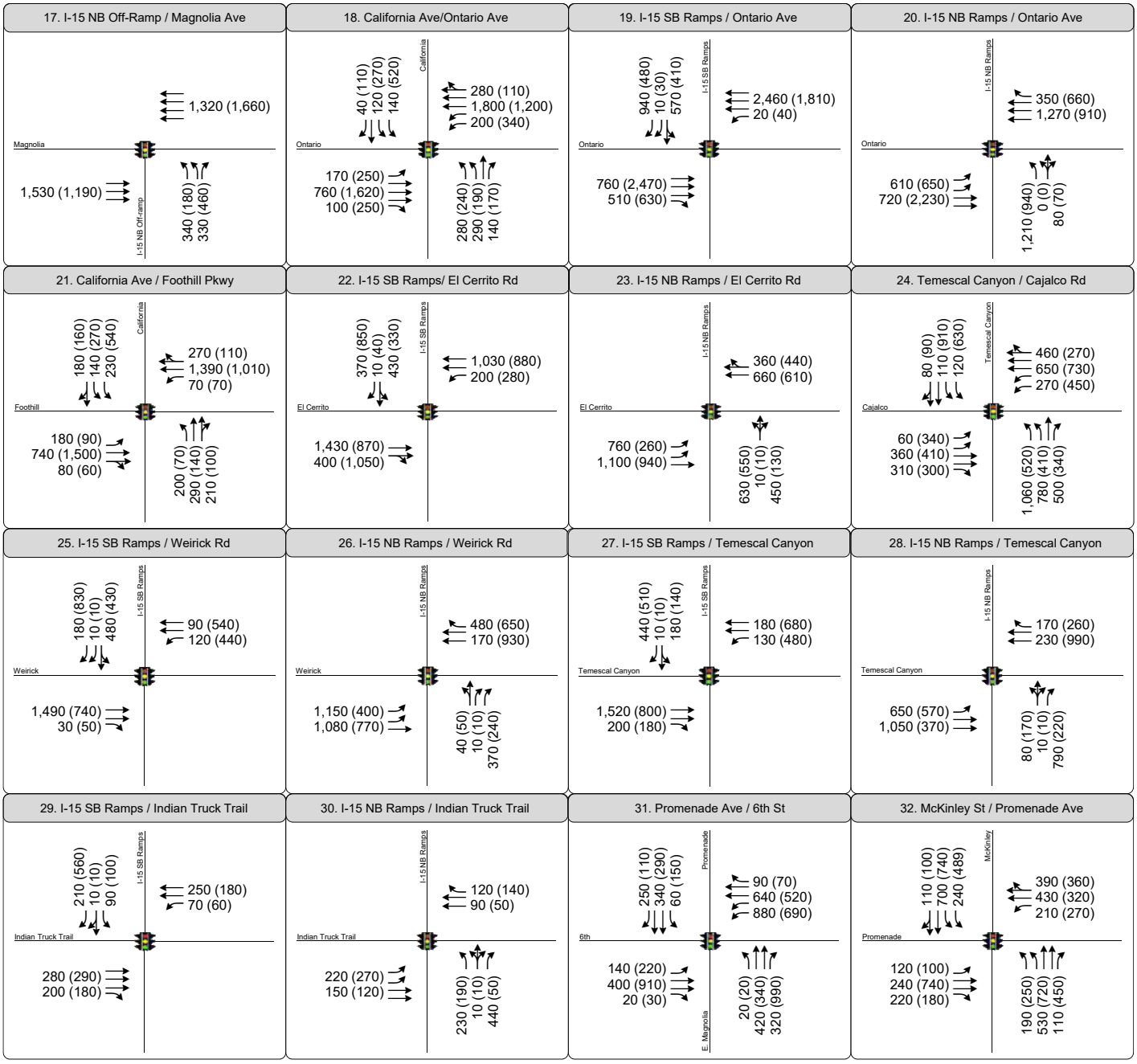


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040) General Plan Buildout Conditions

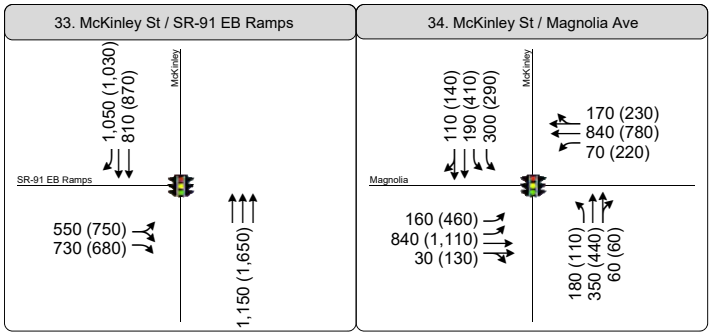


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations - Future Year (2040) General Plan Buildout Conditions

TABLE 5-1
FUTURE YEAR (2040) GENERAL PLAN BUILDOUT CONDITION INTERSECTION OPERATIONS

Intersection		Jurisdiction	Peak Hour	Existing Year (2017)		Future Year (2040)	
				Delay	LOS	Delay	LOS
1	Green River Rd & SR-91 WB	Caltrans	AM	21	C	22	C
			PM	17	B	23	C
2	Green River Rd & SR-91 EB	Caltrans	AM	14	B	13	B
			PM	29	C	43	D
3	Green River Rd & Palisades Dr	Corona	AM	12	B	42	D
			PM	7	A	15	B
4	Auto Center Dr & Wardlow Rd	Corona	AM	14	B	16	B
			PM	30	C	24	C
5	Green River Rd & Serfas Dr	Corona	AM	17	B	22	C
			PM	16	B	27	C
6	Foothill Blvd & Paseo Grande	Corona	AM	6	A	8	A
			PM	5	A	5	A
7	River Rd & Corydon St	Riverside County	AM	33	C	36	D
			PM	41	D	47	D
8	Railroad St & Smith Ave	Corona	AM	25	C	39	D
			PM	23	C	42	D
9	Sixth St & Smith Ave	Corona	AM	30	C	39	D
			PM	38	D	49	D
10	Sixth St & Lincoln Ave	Corona	AM	32	C	55	D
			PM	35	D	39	D
11	Ontario Ave & Lincoln Ave	Corona	AM	29	C	35	D
			PM	33	C	33	C
12	Foothill Blvd & Lincoln Ave	Corona	AM	25	C	51	D
			PM	36	D	39	D
13	Ontario Ave & Magnolia Ave	Corona	AM	28	C	29	C
			PM	38	D	41	D
14	Hidden Valley Pkwy & SB I-15	Caltrans	AM	7	A	5	A
			PM	3	A	4	A
15	Hidden Valley Pkwy & NB I-15	Caltrans	AM	23	C	35	C
			PM	47	D	30	C
16	Magnolia Ave & I-15 SB	Caltrans	AM	42	D	**59**	**E**
			PM	37	D	**79**	**E**
17	Magnolia Ave & I-15 NB	Caltrans	AM	27	C	12	B
			PM	30	C	15	B
18	Ontario Ave & California Ave	Corona	AM	30	C	44	D
			PM	46	D	52	D
19	Ontario Ave & I-15 SB	Caltrans	AM	17	B	28	C
			PM	28	C	24	C
20	Ontario Ave & I-15 NB	Caltrans	AM	34	C	47	D
			PM	34	C	37	D

TABLE 5-1
FUTURE YEAR (2040) GENERAL PLAN BUILDOUT CONDITION INTERSECTION OPERATIONS

	Intersection	Jurisdiction	Peak Hour	Existing Year (2017)		Future Year (2040)	
				Delay	LOS	Delay	LOS
21	California Ave & Foothill Parkway	Corona	AM	37	D	48.1	D
			PM	**87**	**F**	42.4	D
22	El Cerrito Road & I-15 SB Ramps	Caltrans	AM	25	C	33	C
			PM	11	B	**132**	**F**
23	El Cerrito Road & I-15 NB Ramps	Caltrans	AM	31	C	**103**	**F**
			PM	19	B	36	D
24	Cajalco Rd & Temescal Canyon	Corona	AM	53	D	41	D
			PM	**69**	**E**	49	D
25	Weirick Rd & I-15 SB Ramps	Caltrans	AM	24	C	42	D
			PM	28	C	41	D
26	Weirick RD & I-15 NB Ramps	Caltrans	AM	15	B	29	C
			PM	25	C	24	C
27	Temescal Canyon & I-15 SB Ramps	Caltrans	AM	26	C	15	B
			PM	7	A	41	D
28	Temescal Canyon & I-15 NB Ramps	Caltrans	AM	**70**	**E**	26	C
			PM	8	A	40	D
29	Indian Truck Trail & I-15 SB Ramps	Caltrans	AM	38	D	38	D
			PM	6	A	6	A
30	Indian Truck Trail & I-15 NB Ramps	Caltrans	AM	20	B	23	C
			PM	6	A	5	A
31	Sixth & Promenade Ave	Corona	AM	29	C	40	D
			PM	**100**	**F**	48	D
32	McKinley St & Promenade Ave	Corona	AM	30	C	47	D
			PM	**113**	**F**	48	D
33	McKinley St & SR-91 EB Ramps	Caltrans	AM	18	B	18	B
			PM	26	C	23	C
34	McKinley St & Magnolia Ave	Riverside County	AM	26	C	50	D
			PM	**71.9**	**E**	55	D

Notes:
1. Delay is calculated using Synchro using HCM 6 Methodology
2. **Bold** type indicates LOS exceeds desired level.
3. The intersection of Bob Hope Drive and A Street does not exist in this scenario.
Source: Fehr & Peers, 2018

5.3 ROADWAY SEGMENT ANALYSIS

Forecast ADT volumes were used to evaluate roadway segment operations at the study locations for Future Year (2040) General Plan Buildout Conditions. The results for this analysis are summarized in **Table 5-2** and indicate that most of the study roadway segments operate at an acceptable level of service in the year 2040, except for the following locations:

1. McKinley Street between Griffin Way & Magnolia Avenue – LOS E
6. Ontario Avenue between California Avenue & State Street – LOS F

TABLE 5-2
FUTURE YEAR (2040) GENERAL PLAN BUILDOUT CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE

	Roadway	Segment	Roadway Classification	Future Year (2040)		
				ADT	V/C	LOS
1	McKinley Street	Griffin Wy & Magnolia Ave	6-Lane Major Arterial	52,200	**0.96**	**E**
2	McKinley Street	Promenade Ave & Griffin Wy	6-Lane Major Arterial	27,800	0.51	C or Better
3	Cajalco Road	Masters Dr & I-15	6-Lane Major Arterial	33,800	0.62	C or Better
4	Lincoln Avenue	Sixth St & 8th St	4-Lane Secondary	25,000	0.72	C or Better
5	Hidden Valley Parkway	Garland Wy & Corona Ave	4-Lane Secondary	23,700	0.68	C or Better
6	Ontario Avenue	California Ave & State St	6-Lane Major Arterial	64,100	**1.18**	**F**
7	Rimpau Avenue	Magnolia Ave & Olympic Dr	4-Lane Secondary	23,000	0.66	C or Better
8	Green River Road	Crestridge Dr & Dominguez Ranch Rd	6-Lane Major Arterial	38,300	0.71	C or Better

Notes:
1. Roadway segment operating below acceptable LOS are noted in **bold**.
2. 4-Lane Secondary capacity = 34,800 veh/day, 3-Lane Major Arterial capacity = 28,450 veh/day, 4-Lane Major Arterial capacity = 37,900 veh/day, 6-Lane Major Arterial capacity = 54,300 veh/day

Source: Fehr & Peers, 2018

5.4 IMPACT ANALYSIS

5.4.1 INTERSECTION IMPACTS

Table 5-3 compares the changes in delay and LOS at intersections that operate deficiently between "Base" and "Plus Project" scenarios to determine project impacts. Changes are compared to the allowable change outlined in Chapter 3

As shown in **Table 5-3**, the project is forecast to result in a project impact based on thresholds of significance for Future Year (2040) General Plan Buildout Conditions at the following study intersection:

16. Magnolia Avenue & I-15 Southbound Ramps – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
22. El Cerrito Road & I-15 Southbound Ramps – PM Peak Hour (LOS F)
23. El Cerrito Road & I-15 Northbound Ramps- AM Peak Hour (LOS F)

Table 5-3
Future Year (2040) General Plan Buildout Condition Intersection Impact Summary

Intersection		Jurisdiction	Peak Hour	Existing		Future		Delay Change	Significant Impact
				Delay	LOS	Delay	LOS		
16	Magnolia Ave & I-15 SB Ramps	Caltrans	AM	42	D	**59**	**E**	17	**YES**
			PM	37	D	**79**	**E**	42	**YES**
22	El Cerrito Road & I-15 SB Ramps	Caltrans	AM	25	C	33	C	8	NO
			PM	11	B	**132**	**F**	121	**YES**
23	El Cerrito Road & I-15 NB Ramps	Caltrans	AM	31	C	**103**	**F**	72	**YES**
			PM	19	B	36	D	17	NO

Notes:
1. Delay is calculated using Synchro using HCM 6 Methodology
2. Bold type indicates LOS exceeds desired level.
Source: Fehr & Peers, 2018

In addition to resulting in an intersection impact according to the Caltrans impact criteria, because the intersections of El Cerrito Road at the I-15 Northbound and Southbound Ramps are forecast to operate below LOS E during at least one peak hour, CMP impacts have also been identified at these locations.

5.4.2 ROADWAY IMPACT SUMMARY

Though, two roadway segments are forecast to operate below acceptable LOS D, there is insufficient right-of-way and existing property that makes roadway widening infeasible. Per the General Plan, these roadways have been identified as exempt and no roadway impacts have been identified.

6. VEHICLE MILES TRAVELED (VMT) ANALYSIS

This section documents the project's impacts related to VMT, per the City's adopted guidelines.

6.1 VMT BACKGROUND

As a result of Senate Bill 743 (SB 743), the new recommended metric in the California Environmental Quality Act (CEQA) guidelines for transportation impacts is vehicle miles traveled per capita. The legislative intent of SB 743 is to balance the needs of congestion management with statewide goals for infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

Under the City's proposed guidelines, the CPGM should be used to forecast daily vehicle miles traveled per service population (VMT/SP) for the General Plan Buildout Conditions with the same population and employment growth totals. A significant impact would occur if the listed conditions below are met:

- The project increases the total daily VMT/SP above the baseline level for the City
- The project causes total daily VMT within the City to be higher than the no project alternative under cumulative conditions.

6.2 VMT ANALYSIS

Fehr & Peers utilized the CPGM travel demand forecasting model to estimate VMT for the Project and surrounding communities. The VMT estimates incorporate the "full accounting" methodology, in that it accounts for the complete length of the trip from the origin to the destination and assigns 100% of that trip distance to the City of Corona. To estimate the potential VMT impacts, Fehr & Peers had to estimate VMT from the Base Year (2017), Future Year (2040) No Project and Future Year (2040) With Project horizons in the CPGM. The Future Year (2040) No Project scenario assumes the existing general plan is built out in horizon year 2040.

6.2.1 PROJECT VMT

The Base Year (2017) and Future Year (2040) VMT estimates are summarized in **Table 6-1**. As shown in **Table 6-1**, the Future Year (2040) VMT/SP in the General Plan area is anticipated to have a VMT/SP of 32.6. This is 2.4 VMT/SP higher than that of the Base Year (2017) VMT/SP, which has a VMT/SP of 30.2.

TABLE 6-1 VMT PER SERVICE POPULATION ANALYSIS

Scenario	2017 Base Year		2040 Future Year	
	Total Daily VMT	VMT/SP	Total Daily VMT	VMT/SP
City of Corona (Citywide) VMT	7,093,655	30.0	8,674,797	32.3
Sphere of Influence (SOI) Only VMT	1,295,079	31.1	2,702,890	33.8
Total Corona General Plan Area (Citywide plus SOI)	8,385,277	30.2	11,366,074	32.6

Source: Fehr & Peers, 2018

6.2.2 CUMULATIVE VMT

The Future Year (2040) No Project and Future Year (2040) With Project VMT estimates are summarized in **Table 6-2**. Since the No Project and With Project scenarios have the same land use assumptions, the only differences in the scenarios are the road diet on Sixth Street, which reduces the number of lanes on Sixth Street from four to two in the With Project scenario.

As shown in **Table 6-2**, the With Project and No Project scenarios are forecast to produce generally the same VMT, though the With Project scenario is forecast to generate higher VMT than the No Project scenario by a margin of 0.03% in the General Plan Area and by a margin of 0.02% within the City of Corona.

The results of the modeling estimates indicate that vehicles are selecting a slightly longer path of travel given the lane reduction in capacity on Sixth Street. The relatively small increase in VMT is consistent with the relatively small decrease in lane miles (the 1.75 lane mile reduction on Sixth Street is 0.3% of the total lane miles within the model in the City of Corona and 0.002% of the total lane miles in the SCAG region).

These results are contrary to the theory of induced travel which has found a significant relationship with increasing highway capacity corresponding to increases in VMT. It follows that a reduction in capacity should yield a reduction in VMT for the region. Given the geographic scale of the SCAG region in the CGPM, it is unlikely that the model is sensitive enough to account for effects of induced travel to be accurately reflected in these VMT estimates. The increase in VMT forecast is within the model standard error and is likely negligible.

TABLE 6-2 VMT PER SERVICE POPULATION ANALYSIS

Scenario	2040 Future Year No Project		2040 Future Year With Project	
	Total Daily VMT	VMT/SP	Total Daily VMT	VMT/SP
City of Corona (Citywide) VMT	8,672,884	32.3	8,674,797	32.3
Sphere of Influence (SOI) Only VMT	2,701,420	33.8	2,702,890	33.8
Total Corona General Plan Area (Citywide plus SOI)	11,362,777	32.6	11,366,074	32.6

Source: Fehr & Peers, 2018

6.2.2 VMT IMPACTS

Since the buildout of the General Plan area is anticipated to have a higher VMT/SP when compared to both the Base Year and Future No Project Conditions, it can be concluded that developing the General Plan to buildout conditions causes a significant impact on VMT.

The City of Corona can consider Transportation Demand Management (TDM) measures which are an effective way to reduce VMT and are not captured in the models, such as CPGM utilized in this analysis. For example, if a plus project scenario VMT surpasses the VMT per service population of the Base Year (2017), the inclusion of TDM measures have the ability to reduce VMT and VMT/SP. As such, the General Plan proposed buildout should result in additional VMT reductions than those summarized above. Therefore, the City should strive to develop TDM measures. A descriptive summary of TDM measures are further discussed in Chapter 7.

7. IMPACT ANALYSIS AND MITIGATION MEASURES

This chapter summarizes the environmental impacts of the proposed project and recommends feasible mitigation measures where possible. The proposed project was analyzed based on the CEQA Initial Checklist provided below. The results are summarized below.

7.1 CEQA CHECKLIST

a) Does the proposed project conflict with an applicable plan, ordinance, or policy?

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

City of Corona

The project is consistent with adopted plans and policies related to active travel in the area. The Circulation Element as part of the General Plan Update has policies that support public transit, bicycle improvements, and improvements to the pedestrian facilities by closing gaps in the network, expanding the network, and coordinating with regional agencies. Additionally, these policies support implementation of Complete Streets, through a layered network approach, consistent with the State's Complete Streets Act. As such, they are consistent with the existing adopted policies, plans and programs regarding public transit, bicycle, or pedestrian facilities.

To evaluate motorized facilities, the significance criteria for the City, summarized in Chapter 3, were applied to the analysis results to identify significant impacts. All locations where cumulative project impacts occur are subject to mitigation, which is described later in this chapter. As such, this impact is considered *less-than-significant.*

Riverside County Congestion Management Plan

Based on the analysis presented in Chapter 5**,** traffic generated by General Plan Buildout conditions plus the traffic generated by regional growth would contribute to the existing congestion of I-15 and SR-91 and therefore conflict with the Riverside County Congestion Management Plan. Specifically, the two ramp terminal intersections along I-15 at El Cerrito Road are forecast to operate below LOS E during at least one peak hour and therefore result in a CMP intersection impact. As such, this impact is considered ***significant and unavoidable.***

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Based on the analysis presented in Chapter 6, the project results in a project level VMT impact since the VMT/SP from base to future conditions increases. Mitigation measures are presented later in this section but it is unlikely that implementation the recommended TDM measures is feasible or will fully mitigate the impact. Therefore this impact is considered ***significant and unavoidable.***

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

The project will not increase these hazards since this is a planning document and no civil engineering designs are being proposed. All future roadways would be designed by a professional civil engineer consistent with current roadway design requirements (national, regional, and/or local). These design plans are where any hazards would be identified and addressed. As such, this impact is considered *less-than-significant***.**

d) Would the project result in inadequate emergency access?

The General Plan is a planning document and does not inherently represent project-specific components. As such, the plans do not result in inadequate emergency access. However, any development or improvement processed under this plan should be reviewed by the emergency services departments to ensure adequate emergency access. As such, this impact is considered *less-than-significant***.**

7.2 IMPACTS AND MITIGATION MEASURES

Improvement measures were developed for significantly impacted locations to minimize the impact of cumulative growth on the study area. LOS calculation worksheets for mitigated locations are provided in **Appendix B**.

7.2.1 RECOMMENDED INTERSECTION MITIGATION MEASURES

As shown in **Table 5-3**, the following study intersections are forecast to result in a significant impact based on agency thresholds of significance for Future Year (2040) Buildout of General Plan Conditions:

16. Magnolia Avenue & I-15 Southbound Ramps – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
22. El Cerrito Road & I-15 Southbound Ramps – PM Peak Hour (LOS F)
23. El Cerrito Road & I-15 Northbound Ramps – AM Peak Hour (LOS F)

16. Magnolia Avenue/I-15 Southbound Ramps
(Caltrans)



Source: Google Maps, 2018

In order to operate at acceptable LOS D or better, this intersection requires ramp widening on the I-15 southbound off-ramp to increase the number of lanes to 5 lanes. This intersection requires that the southbound off-ramp be widened to contain one left-turn lane, one shared through-left lane, and three right-turn lanes.

This intersection is within Caltrans jurisdiction and the project cannot guarantee that this improvement will be implemented. Therefore, this impact is considered ***significant and unavoidable.***

22. El Cerrito Road & I-15 SB Ramps
(Caltrans)



Source: Google Maps, 2018

In order to operate at acceptable LOS D or better, this intersection requires ramp widening on the I-15 southbound off-ramp to increase the number of lanes to three lanes. This intersection requires that the southbound off-ramp be widened to contain one shared through-left lane and two right-turn lanes.

This intersection is within Caltrans jurisdiction and the project cannot guarantee that this improvement will be implemented. Therefore, this impact is considered ***significant and unavoidable.***

23. El Cerrito Road & I-15 NB Ramps
(Caltrans)



Source: Google Maps, 2018

In order to operate at acceptable LOS D or better, this intersection requires ramp widening on the I-15 northbound off-ramp to increase the number of lanes to two lanes. This intersection requires that the southbound off-ramp be widened to contain one left-turn lane and one shared left-through-right lane turn lane.

This intersection is within Caltrans jurisdiction and the project cannot guarantee that this improvement will be implemented. Therefore, this impact is considered ***significant and unavoidable.***

7.2.2 VMT REDUCTIONS

As previously noted, the City Policy Plan will affect VMT in the area. It should be noted that the VMT information presented is produced from the model and only accounts for the built environment variables that the regional model is sensitive to. Additional policies in the City Policy Plan supporting variables the model is not sensitive to (such as connectivity in neighborhoods, presence of bicycle and pedestrian facilities, and transportation demand management (TDM) measures) are not reflected in these estimates. As such, the following provides a summary of built environment variables that the model is either accounting for or not accounting for, and the appropriate approach for the City to consider additional VMT reductions moving forward.

The California Air Pollution Control Officers Association (CAPCOA) documentation provides a variety of information related to potential VMT reduction strategies through implementation of TDM measures. Some of the referenced strategies are already accounted for through the modeling of the General Plan and some are supported through policy language of the General Plan document. Other strategies are project specific and/or would be implemented through the development code or conditioned on future development.

Measures Already Accounted for (In Some Degree) in the General Plan Transportation Modeling

The specific TDM strategies that are already accounted for in the forecasting efforts are noted below along with how well the model has accounted for the attribute:

- Density – The model accounted for adjustments to the trip generation rate for specific land uses like multifamily housing; however, the general plan model makes general assumptions related to density on this level and, for specific developments, may or may not be fully reflecting the effects of density on VMT
- Location Efficiency – The model accounts for the location efficiency of proposed general plan land uses
- Diversity – The model is sensitive to the diversity of land uses and it is reflected in the General Plan forecasts
- Destination Accessibility – The model is sensitive to the accessibility of destinations
- Transit Accessibility – The model accounts for transit access to/from land uses from both existing and planned transit systems

Measures Not Accounted for in the General Plan Transportation Modeling

The following TDM measures are not accounted for in the General Plan forecasts and VMT estimates but may be included in policy direction as part of the General Plan document, through specific development proposals, or through updates to the development code that would further reduce VMT:

- Design – This would likely occur through an update of the development code or design guidelines
- Below Market Rate Housing – This would occur on a project-by-project basis
- Orientation Toward Non-Auto Corridor – This would likely occur through an update of the development code or design guidelines
- Proximity to Bike Path – This would likely occur through an update of the development code or design guidelines
- Pedestrian Network – This would likely occur through an update of the development code or design guidelines
- Traffic Calming – This would likely occur through an update of the development code or design guidelines
- Neighborhood Electric Vehicle Network – This would likely apply only for master planned developments and would be project specific
- Bicycle Network – This would likely occur through an update of the development code or design guidelines
- Parking Supply Limits – This would likely occur through an update of the development code or design guidelines
- Unbundled Parking Costs – This would likely occur through an update of the development code or design guidelines
- On-Street Market Pricing – This would likely occur through an update of the development code or design guidelines
- Residential Area Parking Permits – This would likely occur through an update of the development code or design guidelines
- Transit System Network Expansion – This would likely occur through an update of the development code or design guidelines
- Transit System Frequency/Speed – This would likely occur through an update of the development code or design guidelines
- Bus Rapid Transit – This would likely occur through an update of the development code or design guidelines

- Access Improvements – This would likely occur through an update of the development code or design guidelines
- Station Bike Parking – This would likely occur through an update of the development code or design guidelines
- Local Shuttles – This can occur through expansion of the Corona Cruiser or would be dependent on the developer/owner of future land uses to implement
- Park and Ride Lots – The General Plan can provide policy guidance to promote this strategy
- Commute Trip Reduction Programs (including transit fare subsidies, parking cash-out, parking pricing, alterative work schedules and telecommuting, marketing, employer-sponsored van pools or shuttles, ride share programs, bike share, end of trip facilities, school pool, and school buses) – The General Plan can provide policy guidance to promote these strategies, but the effectiveness is largely dependent on the employer type and the participation rate of their employees

Effectiveness of TDM Measures

The CAPCOA documentation identifies that, in a suburban context, the maximum achievable VMT reduction is 10% unless the development includes a NEV program; in which case a 15% VMT reduction is achievable. Additionally, some of these reductions are accounted for through the transportation modeling completed for the General Plan effort.

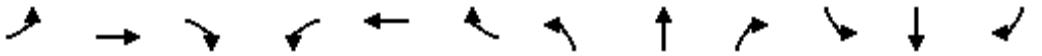
As noted above, most of the other measures would be implemented on a project-by-project basis or would occur during the development code update or modifications to the design guidelines and, because those have not yet been completed, cannot be relied upon for this General Plan evaluation.

Given the noted information, the only measures that can be incorporated into the General Plan through policy language are associated with the transit expansion efforts. Given that the City does not own or operate the transit system (except for the Corona Cruiser), the City can only support those efforts and cannot guarantee implementation.

APPENDIX A: Synchro 10 Reports



Existing Year (2017) AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	229	258	1178	137	0	0	0	0	17	2	84
Future Volume (veh/h)	0	229	258	1178	137	0	0	0	0	17	2	84
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1885	1885	1885	0				1885	1885	1885
Adj Flow Rate, veh/h	0	246	219	1267	147	0				19	0	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	1	1	1	1	0				1	1	1
Cap, veh/h	0	983	840	1516	1652	0				157	0	70
Arrive On Green	0.00	0.54	0.52	0.50	1.00	0.00				0.04	0.00	0.04
Sat Flow, veh/h	0	1924	1564	5063	1885	0				3591	0	1598
Grp Volume(v), veh/h	0	241	224	1267	147	0				19	0	4
Grp Sat Flow(s),veh/h/ln	0	1791	1604	1688	1885	0				1795	0	1598
Q Serve(g_s), s	0.0	7.2	7.8	21.5	0.0	0.0				0.5	0.0	0.2
Cycle Q Clear(g_c), s	0.0	7.2	7.8	21.5	0.0	0.0				0.5	0.0	0.2
Prop In Lane	0.00		0.98	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	962	861	1516	1652	0				157	0	70
V/C Ratio(X)	0.00	0.25	0.26	0.84	0.09	0.00				0.12	0.00	0.06
Avail Cap(c_a), veh/h	0	962	861	1975	1652	0				395	0	176
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.91	0.91	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.4	13.1	22.9	0.0	0.0				46.0	0.0	45.8
Incr Delay (d2), s/veh	0.0	0.6	0.7	2.3	0.1	0.0				0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	2.7	6.2	0.0	0.0				0.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.0	13.8	25.2	0.1	0.0				46.1	0.0	46.0
LnGrp LOS	A	B	B	C	A	A				D	A	D
Approach Vol, veh/h		465			1414						23	
Approach Delay, s/veh		13.4			22.6						46.1	
Approach LOS		B			C						D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		91.6			33.9	57.7		8.4				
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0				
Max Green Setting (Gmax), s		79.0			37.0	36.0		9.0				
Max Q Clear Time (g_c+I1), s		2.0			23.5	9.8		2.5				
Green Ext Time (p_c), s		0.5			4.4	1.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

Notes

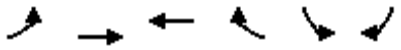
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	72	0	0	1211	47	89	2	156	0	0	0
Future Volume (veh/h)	167	72	0	0	1211	47	89	2	156	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	174	75	0	0	1261	39	93	2	7			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	225	2956	0	0	3388	105	154	3	246			
Arrive On Green	0.13	0.83	0.00	0.00	0.67	0.67	0.09	0.09	0.09			
Sat Flow, veh/h	1781	3647	0	0	5257	157	1746	38	2790			
Grp Volume(v), veh/h	174	75	0	0	843	457	95	0	7			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1842	1783	0	1395			
Q Serve(g_s), s	9.5	0.4	0.0	0.0	11.0	11.0	5.1	0.0	0.2			
Cycle Q Clear(g_c), s	9.5	0.4	0.0	0.0	11.0	11.0	5.1	0.0	0.2			
Prop In Lane	1.00		0.00	0.00		0.09	0.98		1.00			
Lane Grp Cap(c), veh/h	225	2956	0	0	2266	1226	157	0	246			
V/C Ratio(X)	0.77	0.03	0.00	0.00	0.37	0.37	0.60	0.00	0.03			
Avail Cap(c_a), veh/h	356	2956	0	0	2266	1226	250	0	391			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	42.3	1.4	0.0	0.0	7.4	7.4	43.9	0.0	41.7			
Incr Delay (d2), s/veh	5.4	0.0	0.0	0.0	0.5	0.9	1.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.0	3.4	3.8	2.3	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	1.5	0.0	0.0	7.9	8.3	45.3	0.0	41.7			
LnGrp LOS	D	A	A	A	A	A	D	A	D			
Approach Vol, veh/h		249			1300			102				
Approach Delay, s/veh		33.8			8.0			45.1				
Approach LOS		C			A			D				

Timer - Assigned Phs	1	2		4		6			
Phs Duration (G+Y+Rc), s	16.6	70.6		12.8		87.2			
Change Period (Y+Rc), s	5.0	6.0		6.0		6.0			
Max Green Setting (Gmax), s	19.6	52.0		12.0		76.0			
Max Q Clear Time (g_c+I1), s	11.5	13.0		7.1		2.4			
Green Ext Time (p_c), s	0.2	5.9		0.1		0.3			

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	99	190	910	25	4	336
Future Volume (veh/h)	99	190	910	25	4	336
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	108	207	989	24	4	361
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	226	2868	1792	43	476	624
Arrive On Green	0.13	0.56	0.35	0.33	0.27	0.27
Sat Flow, veh/h	1781	5274	5296	124	1781	1585
Grp Volume(v), veh/h	108	207	656	357	4	361
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1848	1781	1585
Q Serve(g_s), s	2.6	0.9	7.3	7.3	0.1	8.4
Cycle Q Clear(g_c), s	2.6	0.9	7.3	7.3	0.1	8.4
Prop In Lane	1.00			0.07	1.00	1.00
Lane Grp Cap(c), veh/h	226	2868	1190	646	476	624
V/C Ratio(X)	0.48	0.07	0.55	0.55	0.01	0.58
Avail Cap(c_a), veh/h	1144	3279	2186	1187	1144	1218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	4.7	12.2	12.3	12.6	11.1
Incr Delay (d2), s/veh	1.6	0.0	0.4	0.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.2	2.0	2.3	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.5	4.7	12.7	13.0	12.6	12.0
LnGrp LOS	C	A	B	B	B	B
Approach Vol, veh/h		315	1013		365	
Approach Delay, s/veh		10.1	12.8		12.0	
Approach LOS		B	B		B	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		30.2		16.5	9.9	20.3
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		29.0		29.0	29.0	29.0
Max Q Clear Time (g_c+I1), s		2.9		10.4	4.6	9.3
Green Ext Time (p_c), s		1.2		1.1	0.2	6.0

Intersection Summary	
HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	2	52	67	59	10	43	307	62	16	486	4
Future Volume (veh/h)	10	2	52	67	59	10	43	307	62	16	486	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	2	6	73	64	2	47	334	56	17	528	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	116	98	94	183	6	70	2073	344	35	2386	18
Arrive On Green	0.01	0.06	0.06	0.05	0.10	0.09	0.04	0.68	0.67	0.02	0.66	0.65
Sat Flow, veh/h	1781	1870	1585	1781	1804	56	1781	3050	506	1781	3615	27
Grp Volume(v), veh/h	11	2	6	73	0	66	47	193	197	17	259	273
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1860	1781	1777	1779	1781	1777	1865
Q Serve(g_s), s	0.5	0.1	0.3	3.5	0.0	2.8	2.2	3.4	3.5	0.8	5.0	5.0
Cycle Q Clear(g_c), s	0.5	0.1	0.3	3.5	0.0	2.8	2.2	3.4	3.5	0.8	5.0	5.0
Prop In Lane	1.00		1.00	1.00		0.03	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	24	116	98	94	0	188	70	1208	1210	35	1173	1231
V/C Ratio(X)	0.46	0.02	0.06	0.78	0.00	0.35	0.67	0.16	0.16	0.49	0.22	0.22
Avail Cap(c_a), veh/h	104	652	553	104	0	649	104	1208	1210	104	1173	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	42.1	37.9	38.0	40.2	0.0	36.0	40.8	4.9	5.0	41.7	5.8	5.8
Incr Delay (d2), s/veh	5.0	0.1	0.3	24.8	0.0	1.1	4.1	0.3	0.3	3.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	2.1	0.0	1.3	1.0	1.1	1.1	0.4	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	37.9	38.2	65.0	0.0	37.1	44.9	5.2	5.3	45.6	6.2	6.2
LnGrp LOS	D	D	D	E	A	D	D	A	A	D	A	A
Approach Vol, veh/h		19			139			437			549	
Approach Delay, s/veh		43.4			51.8			9.5			7.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	62.5	8.5	9.3	7.4	60.8	5.2	12.7
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	29.0	5.0	29.0	5.0	29.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	2.8	5.5	5.5	2.3	4.2	7.0	2.5	4.8
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	4.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	14.2
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	432	4	15	846	316	3	29	19	40	4	85
Future Volume (veh/h)	314	432	4	15	846	316	3	29	19	40	4	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	341	470	4	16	920	343	3	32	21	43	4	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	613	2903	25	37	1642	609	41	59	37	162	108	373
Arrive On Green	0.18	0.80	0.79	0.02	0.65	0.64	0.06	0.06	0.05	0.06	0.06	0.06
Sat Flow, veh/h	3456	3611	31	1781	2537	941	59	1020	648	1351	1870	1585
Grp Volume(v), veh/h	341	231	243	16	643	620	56	0	0	43	4	92
Grp Sat Flow(s),veh/h/ln	1728	1777	1865	1781	1777	1701	1728	0	0	1351	1870	1585
Q Serve(g_s), s	9.2	3.0	3.0	0.9	20.4	20.9	1.1	0.0	0.0	0.0	0.2	0.0
Cycle Q Clear(g_c), s	9.2	3.0	3.0	0.9	20.4	20.9	3.2	0.0	0.0	2.4	0.2	0.0
Prop In Lane	1.00		0.02	1.00		0.55	0.05		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	613	1428	1499	37	1150	1101	137	0	0	162	108	373
V/C Ratio(X)	0.56	0.16	0.16	0.44	0.56	0.56	0.41	0.00	0.00	0.26	0.04	0.25
Avail Cap(c_a), veh/h	745	1428	1499	105	1150	1101	542	0	0	482	550	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.3	2.3	2.3	49.4	10.0	10.2	47.0	0.0	0.0	46.4	45.4	31.7
Incr Delay (d2), s/veh	1.1	0.2	0.2	8.0	2.0	2.1	1.9	0.0	0.0	0.9	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.6	0.6	0.5	7.1	7.1	1.5	0.0	0.0	1.1	0.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	2.5	2.5	57.4	11.9	12.3	48.9	0.0	0.0	47.2	45.5	32.0
LnGrp LOS	D	A	A	E	B	B	D	A	A	D	D	C
Approach Vol, veh/h		815			1279			56			139	
Approach Delay, s/veh		17.9			12.7			48.9			37.1	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	86.0		9.9	22.1	70.0		9.9
Change Period (Y+Rc), s	* 5	5.0		5.0	* 5	5.0		5.0
Max Green Setting (Gmax), s	* 5	81.0		29.0	* 21	65.0		29.0
Max Q Clear Time (g_c+I1), s	2.9	5.0		4.4	11.2	22.9		5.2
Green Ext Time (p_c), s	0.0	2.7		0.4	1.2	10.4		0.2

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



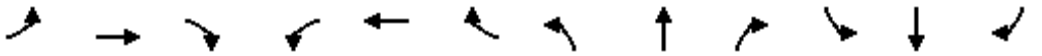
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	208	0	0	644	54	0	0	0	30	0	374
Future Volume (veh/h)	320	208	0	0	644	54	0	0	0	30	0	374
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	348	226	0	0	700	29				33	0	303
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	1052	1902	0	229	1902	848				374	0	666
Arrive On Green	0.54	0.54	0.00	0.00	0.54	0.54				0.21	0.00	0.21
Sat Flow, veh/h	1409	3647	0	1155	3554	1585				1781	0	3170
Grp Volume(v), veh/h	348	226	0	0	700	29				33	0	303
Grp Sat Flow(s),veh/h/ln	704	1777	0	1155	1777	1585				1781	0	1585
Q Serve(g_s), s	6.0	1.0	0.0	0.0	3.6	0.3				0.5	0.0	2.6
Cycle Q Clear(g_c), s	9.5	1.0	0.0	0.0	3.6	0.3				0.5	0.0	2.6
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	1052	1902	0	229	1902	848				374	0	666
V/C Ratio(X)	0.33	0.12	0.00	0.00	0.37	0.03				0.09	0.00	0.46
Avail Cap(c_a), veh/h	1735	3623	0	789	3623	1616				1703	0	3030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	7.0	3.6	0.0	0.0	4.2	3.5				10.0	0.0	10.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.1	0.0				0.1	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.0	0.0	0.2	0.0				0.1	0.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.2	3.6	0.0	0.0	4.3	3.5				10.1	0.0	11.3
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		574			729						336	
Approach Delay, s/veh		5.8			4.3						11.2	
Approach LOS		A			A						B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	20.8	20.8	10.6
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	31.0	31.0	29.0
Max Q Clear Time (g_c+I1), s	5.6	11.5	4.6
Green Ext Time (p_c), s	4.7	4.3	1.3

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	858	460	123	822	59	250	147	225	37	136	22
Future Volume (veh/h)	35	858	460	123	822	59	250	147	225	37	136	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	933	449	134	893	61	272	160	168	40	148	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	289	2090	1093	157	1712	117	326	337	414	52	187	24
Arrive On Green	0.16	0.59	0.59	0.09	0.51	0.50	0.09	0.18	0.17	0.03	0.12	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3375	231	3456	1870	1585	1781	1624	209
Grp Volume(v), veh/h	38	933	449	134	470	484	272	160	168	40	0	167
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1829	1728	1870	1585	1781	0	1833
Q Serve(g_s), s	2.6	20.5	17.2	10.4	24.8	24.9	10.8	10.7	12.3	3.1	0.0	12.4
Cycle Q Clear(g_c), s	2.6	20.5	17.2	10.4	24.8	24.9	10.8	10.7	12.3	3.1	0.0	12.4
Prop In Lane	1.00		1.00	1.00		0.13	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	289	2090	1093	157	901	927	326	337	414	52	0	211
V/C Ratio(X)	0.13	0.45	0.41	0.85	0.52	0.52	0.84	0.47	0.41	0.78	0.00	0.79
Avail Cap(c_a), veh/h	289	2090	1093	178	901	927	420	521	570	102	0	393
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	16.1	9.4	62.9	23.1	23.2	62.3	51.4	42.7	67.5	0.0	60.4
Incr Delay (d2), s/veh	0.2	0.7	1.1	26.3	2.0	1.9	11.0	1.0	0.6	21.5	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	8.1	6.0	5.8	10.5	10.8	5.2	5.1	4.9	1.7	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	16.8	10.6	89.2	25.1	25.1	73.3	52.5	43.3	89.1	0.0	66.9
LnGrp LOS	D	B	B	F	C	C	E	D	D	F	A	E
Approach Vol, veh/h		1420			1088			600			207	
Approach Delay, s/veh		15.7			33.0			59.4			71.2	
Approach LOS		B			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	86.3	17.2	20.1	27.7	75.0	8.1	29.2
Change Period (Y+Rc), s	4.0	* 5	4.0	5.0	* 5	* 5	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 62	17.0	29.0	* 6	* 70	8.0	38.0
Max Q Clear Time (g_c+I1), s	12.4	22.5	12.8	14.4	4.6	26.9	5.1	14.3
Green Ext Time (p_c), s	0.0	9.6	0.4	0.7	0.0	6.5	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	586	369	131	268	49	92	87	50	138	514	48
Future Volume (veh/h)	45	586	369	131	268	49	92	87	50	138	514	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	637	308	142	291	23	100	95	12	150	559	45
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	79	820	396	179	1455	649	129	663	82	189	806	65
Arrive On Green	0.04	0.35	0.34	0.10	0.41	0.41	0.07	0.21	0.19	0.11	0.24	0.23
Sat Flow, veh/h	1781	2322	1123	1781	3554	1585	1781	3181	395	1781	3331	268
Grp Volume(v), veh/h	49	487	458	142	291	23	100	52	55	150	298	306
Grp Sat Flow(s),veh/h/ln	1781	1777	1668	1781	1777	1585	1781	1777	1799	1781	1777	1822
Q Serve(g_s), s	1.9	16.9	16.9	5.4	3.6	0.6	3.8	1.7	1.7	5.7	10.5	10.6
Cycle Q Clear(g_c), s	1.9	16.9	16.9	5.4	3.6	0.6	3.8	1.7	1.7	5.7	10.5	10.6
Prop In Lane	1.00		0.67	1.00		1.00	1.00		0.22	1.00		0.15
Lane Grp Cap(c), veh/h	79	627	589	179	1455	649	129	370	375	189	430	441
V/C Ratio(X)	0.62	0.78	0.78	0.79	0.20	0.04	0.78	0.14	0.15	0.80	0.69	0.70
Avail Cap(c_a), veh/h	181	799	750	284	1804	805	310	773	783	310	773	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	19.9	20.2	30.3	13.1	12.2	31.4	22.3	22.4	30.1	23.8	23.9
Incr Delay (d2), s/veh	3.0	3.7	4.0	3.0	0.1	0.0	3.7	0.2	0.3	2.9	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	6.7	6.5	2.3	1.3	0.2	1.7	0.7	0.7	2.4	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.4	23.6	24.2	33.3	13.2	12.2	35.2	22.5	22.6	33.0	25.8	25.9
LnGrp LOS	D	C	C	C	B	B	D	C	C	C	C	C
Approach Vol, veh/h		994			456			207			754	
Approach Delay, s/veh		24.5			19.4			28.6			27.3	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	28.3	9.0	20.7	7.0	32.2	11.3	18.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	30.0	12.0	29.0	7.0	34.0	12.0	29.0
Max Q Clear Time (g_c+I1), s	7.4	18.9	5.8	12.6	3.9	5.6	7.7	3.7
Green Ext Time (p_c), s	0.1	4.4	0.0	3.1	0.0	2.7	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	218	256	84	35	468	151	112	292	24	54	111	143
Future Volume (veh/h)	218	256	84	35	468	151	112	292	24	54	111	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	237	278	71	38	509	146	122	317	21	59	121	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	1755	440	57	1400	399	176	460	30	76	225	26
Arrive On Green	0.15	0.62	0.61	0.03	0.51	0.50	0.10	0.14	0.13	0.04	0.07	0.06
Sat Flow, veh/h	1781	2814	706	1781	2729	779	1781	3384	223	1781	3215	367
Grp Volume(v), veh/h	237	174	175	38	331	324	122	166	172	59	66	69
Grp Sat Flow(s),veh/h/ln	1781	1777	1743	1781	1777	1730	1781	1777	1830	1781	1777	1804
Q Serve(g_s), s	13.4	4.2	4.4	2.2	11.4	11.6	6.8	9.1	9.2	3.4	3.7	3.8
Cycle Q Clear(g_c), s	13.4	4.2	4.4	2.2	11.4	11.6	6.8	9.1	9.2	3.4	3.7	3.8
Prop In Lane	1.00		0.41	1.00		0.45	1.00		0.12	1.00		0.20
Lane Grp Cap(c), veh/h	271	1108	1087	57	912	888	176	242	249	76	124	126
V/C Ratio(X)	0.87	0.16	0.16	0.66	0.36	0.37	0.69	0.69	0.69	0.78	0.53	0.55
Avail Cap(c_a), veh/h	538	1108	1087	139	912	888	330	537	553	191	398	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	8.1	8.2	49.1	14.9	15.1	44.7	42.3	42.4	48.6	46.1	46.3
Incr Delay (d2), s/veh	3.5	0.3	0.3	4.8	1.1	1.2	1.8	3.4	3.4	6.2	3.5	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	1.6	1.7	1.0	4.7	4.6	3.0	4.2	4.3	1.6	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	8.4	8.5	53.9	16.1	16.3	46.5	45.7	45.8	54.8	49.6	49.9
LnGrp LOS	D	A	A	D	B	B	D	D	D	D	D	D
Approach Vol, veh/h		586			693			460			194	
Approach Delay, s/veh		23.6			18.2			46.0			51.3	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	68.0	15.2	11.2	19.6	56.7	8.4	18.0
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.3	* 63	19.0	* 22	31.0	40.0	11.0	30.0
Max Q Clear Time (g_c+I1), s	4.2	6.4	8.8	5.8	15.4	13.6	5.4	11.2
Green Ext Time (p_c), s	0.0	3.6	0.1	0.5	0.3	6.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	242	34	75	482	71	70	856	97	40	272	137
Future Volume (veh/h)	215	242	34	75	482	71	70	856	97	40	272	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	263	29	82	524	30	76	930	46	43	296	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	1361	149	134	1197	568	98	1244	601	55	1191	711
Arrive On Green	0.12	0.42	0.41	0.04	0.34	0.33	0.06	0.35	0.34	0.03	0.34	0.33
Sat Flow, veh/h	3456	3231	353	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	234	144	148	82	524	30	76	930	46	43	296	71
Grp Sat Flow(s),veh/h/ln	1728	1777	1807	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.8	5.4	5.6	2.5	12.3	0.0	4.5	24.6	0.0	2.6	6.5	0.5
Cycle Q Clear(g_c), s	6.8	5.4	5.6	2.5	12.3	0.0	4.5	24.6	0.0	2.6	6.5	0.5
Prop In Lane	1.00		0.20	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	425	748	761	134	1197	568	98	1244	601	55	1191	711
V/C Ratio(X)	0.55	0.19	0.20	0.61	0.44	0.05	0.77	0.75	0.08	0.78	0.25	0.10
Avail Cap(c_a), veh/h	518	748	761	226	1197	568	233	1730	818	167	1597	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	19.5	19.6	50.6	27.5	22.4	49.8	30.6	21.2	51.4	25.8	8.3
Incr Delay (d2), s/veh	1.1	0.6	0.6	4.5	1.2	0.2	12.2	1.5	0.1	20.7	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	2.4	2.5	1.2	5.3	0.5	2.3	10.5	0.7	1.4	2.7	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	20.0	20.1	55.0	28.7	22.6	62.0	32.1	21.3	72.1	25.9	8.4
LnGrp LOS	D	C	C	E	C	C	E	C	C	E	C	A
Approach Vol, veh/h		526			636			1052			410	
Approach Delay, s/veh		31.3			31.8			33.8			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	49.0	9.9	39.8	17.1	40.0	8.3	41.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	7.0	44.0	14.0	47.0	16.0	35.0	10.0	* 51
Max Q Clear Time (g_c+I1), s	4.5	7.6	6.5	8.5	8.8	14.3	4.6	26.6
Green Ext Time (p_c), s	0.0	3.7	0.1	3.3	0.5	6.2	0.0	9.8

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	279	427	108	65	456	321	135	474	88	164	214	225
Future Volume (veh/h)	279	427	108	65	456	321	135	474	88	164	214	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	303	464	60	71	496	300	147	515	28	178	233	88
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	466	1595	855	92	1298	758	180	745	397	219	590	217
Arrive On Green	0.13	0.45	0.44	0.05	0.37	0.35	0.10	0.21	0.20	0.12	0.23	0.22
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	2545	934
Grp Volume(v), veh/h	303	464	60	71	496	300	147	515	28	178	161	160
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1702
Q Serve(g_s), s	8.0	7.9	1.0	3.8	9.9	5.6	7.7	12.8	0.3	9.3	7.3	7.7
Cycle Q Clear(g_c), s	8.0	7.9	1.0	3.8	9.9	5.6	7.7	12.8	0.3	9.3	7.3	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.55
Lane Grp Cap(c), veh/h	466	1595	855	92	1298	758	180	745	397	219	412	395
V/C Ratio(X)	0.65	0.29	0.07	0.78	0.38	0.40	0.82	0.69	0.07	0.81	0.39	0.41
Avail Cap(c_a), veh/h	721	1595	855	223	1298	758	372	1298	644	446	723	693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	16.7	4.2	44.9	22.4	5.6	42.2	35.0	13.1	40.9	31.1	31.5
Incr Delay (d2), s/veh	0.6	0.5	0.2	5.2	0.9	1.5	3.5	1.6	0.1	9.7	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	3.1	0.4	1.7	4.0	2.2	3.4	5.4	0.3	4.5	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.9	17.2	4.3	50.1	23.3	7.1	45.7	36.6	13.2	50.7	31.9	32.4
LnGrp LOS	D	B	A	D	C	A	D	D	B	D	C	C
Approach Vol, veh/h		827			867			690			499	
Approach Delay, s/veh		24.6			19.9			37.6			38.8	
Approach LOS		C			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	47.0	13.7	26.2	16.9	39.0	15.8	24.1
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	12.0	42.0	20.0	* 38	20.0	34.0	24.0	* 34
Max Q Clear Time (g_c+I1), s	5.8	9.9	9.7	9.7	10.0	11.9	11.3	14.8
Green Ext Time (p_c), s	0.0	4.6	0.1	2.6	0.4	5.9	0.6	4.3

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	311	89	30	460	74	194	254	42	72	144	81
Future Volume (veh/h)	101	311	89	30	460	74	194	254	42	72	144	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	338	81	33	500	72	211	276	33	78	157	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	140	1507	356	41	1510	217	251	616	73	101	311	35
Arrive On Green	0.08	0.53	0.52	0.02	0.48	0.47	0.14	0.19	0.18	0.06	0.10	0.08
Sat Flow, veh/h	1781	2851	674	1781	3119	447	1781	3200	379	1781	3218	364
Grp Volume(v), veh/h	110	209	210	33	284	288	211	152	157	78	86	89
Grp Sat Flow(s),veh/h/ln	1781	1777	1749	1781	1777	1790	1781	1777	1802	1781	1777	1805
Q Serve(g_s), s	5.2	5.4	5.5	1.6	8.4	8.5	9.8	6.4	6.6	3.7	3.9	4.0
Cycle Q Clear(g_c), s	5.2	5.4	5.5	1.6	8.4	8.5	9.8	6.4	6.6	3.7	3.9	4.0
Prop In Lane	1.00		0.39	1.00		0.25	1.00		0.21	1.00		0.20
Lane Grp Cap(c), veh/h	140	939	924	41	860	867	251	342	347	101	172	174
V/C Ratio(X)	0.78	0.22	0.23	0.81	0.33	0.33	0.84	0.44	0.45	0.77	0.50	0.51
Avail Cap(c_a), veh/h	356	939	924	126	860	867	607	1022	1037	293	709	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	10.7	10.9	41.4	13.5	13.6	35.7	30.4	30.5	39.6	36.5	36.7
Incr Delay (d2), s/veh	3.6	0.5	0.6	13.5	1.0	1.0	2.9	1.3	1.3	4.7	3.2	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.9	2.0	0.8	3.2	3.2	4.2	2.7	2.8	1.7	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	11.3	11.4	54.9	14.5	14.6	38.6	31.6	31.8	44.3	39.7	39.9
LnGrp LOS	D	B	B	D	B	B	D	C	C	D	D	D
Approach Vol, veh/h		529			605			520			253	
Approach Delay, s/veh		17.8			16.8			34.5			41.2	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.9	49.0	17.0	12.2	10.7	45.2	8.8	20.4
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 44	29.0	* 33	17.0	33.0	14.0	48.0
Max Q Clear Time (g_c+I1), s	13.6	7.5	11.8	6.0	7.2	10.5	5.7	8.6
Green Ext Time (p_c), s	0.0	3.5	0.2	1.2	0.1	4.5	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	590	36	105	798	35	77	416	80	26	422	251
Future Volume (veh/h)	251	590	36	105	798	35	77	416	80	26	422	251
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	273	641	0	114	867	0	84	452	20	28	459	166
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	345	2742		174	2538		108	793	354	47	639	428
Arrive On Green	0.10	0.54	0.00	0.05	0.50	0.00	0.06	0.22	0.22	0.03	0.18	0.17
Sat Flow, veh/h	3456	5274	0	3456	5274	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	273	641	0	114	867	0	84	452	20	28	459	166
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1728	1702	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.1	6.9	0.0	3.4	10.7	0.0	4.8	11.8	0.8	1.6	12.7	6.5
Cycle Q Clear(g_c), s	8.1	6.9	0.0	3.4	10.7	0.0	4.8	11.8	0.8	1.6	12.7	6.5
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	345	2742		174	2538		108	793	354	47	639	428
V/C Ratio(X)	0.79	0.23		0.66	0.34		0.78	0.57	0.06	0.59	0.72	0.39
Avail Cap(c_a), veh/h	663	2742		331	2538		273	1363	608	137	1090	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.9	12.8	0.0	48.6	15.9	0.0	48.3	36.1	20.4	50.2	40.3	17.4
Incr Delay (d2), s/veh	1.6	0.2	0.0	1.6	0.4	0.0	4.6	0.6	0.1	4.3	1.5	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.5	0.0	1.5	3.9	0.0	2.2	5.0	0.4	0.8	5.5	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.5	13.0	0.0	50.2	16.3	0.0	52.9	36.7	20.4	54.5	41.8	18.0
LnGrp LOS	D	B		D	B		D	D	C	D	D	B
Approach Vol, veh/h		914	A		981	A		556			653	
Approach Delay, s/veh		23.3			20.2			38.6			36.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	60.0	11.3	22.8	14.4	55.8	6.8	27.3
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	* 55	16.0	* 31	20.0	45.0	8.0	39.0
Max Q Clear Time (g_c+I1), s	5.4	8.9	6.8	14.7	10.1	12.7	3.6	13.8
Green Ext Time (p_c), s	0.1	6.6	0.1	3.1	0.3	9.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	504	209	144	761	0	0
Future Volume (veh/h)	504	209	144	761	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	548	210	157	827		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2096	801	186	3444		
Arrive On Green	0.83	0.83	0.10	0.97		
Sat Flow, veh/h	2608	960	1781	3647		
Grp Volume(v), veh/h	387	371	157	827		
Grp Sat Flow(s),veh/h/ln	1777	1698	1781	1777		
Q Serve(g_s), s	6.0	6.1	11.2	1.2		
Cycle Q Clear(g_c), s	6.0	6.1	11.2	1.2		
Prop In Lane		0.57	1.00			
Lane Grp Cap(c), veh/h	1481	1415	186	3444		
V/C Ratio(X)	0.26	0.26	0.84	0.24		
Avail Cap(c_a), veh/h	1481	1415	589	3444		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	2.3	2.3	57.1	0.1		
Incr Delay (d2), s/veh	0.4	0.5	9.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	1.4	5.5	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.7	2.8	66.9	0.2		
LnGrp LOS	A	A	E	A		
Approach Vol, veh/h	758			984		
Approach Delay, s/veh	2.8			10.9		
Approach LOS	A			B		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.6	112.4				130.0
Change Period (Y+Rc), s	4.0	4.5				4.5
Max Green Setting (Gmax), s	43.0	78.5				125.5
Max Q Clear Time (g_c+I1), s	13.2	8.1				3.2
Green Ext Time (p_c), s	0.4	2.9				3.7

Intersection Summary	
HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	257	0	0	838	42	382	77	123	30	0	166
Future Volume (veh/h)	75	257	0	0	838	42	382	77	123	30	0	166
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	82	279	0	0	911	46	415	84	134	33	0	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	208	1787	0	0	1189	60	1466	216	183	552	0	0
Arrive On Green	0.23	1.00	0.00	0.00	0.69	0.68	0.42	0.12	0.12	0.27	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3536	174	3456	1870	1585	1781	33	
Grp Volume(v), veh/h	82	279	0	0	470	487	415	84	134	33	29.8	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1839	1728	1870	1585	1781	C	
Q Serve(g_s), s	4.3	0.0	0.0	0.0	19.1	19.1	8.6	4.6	9.0	1.5		
Cycle Q Clear(g_c), s	4.3	0.0	0.0	0.0	19.1	19.1	8.6	4.6	9.0	1.5		
Prop In Lane	1.00		0.00	0.00		0.09	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	208	1787	0	0	614	635	1466	216	183	552		
V/C Ratio(X)	0.39	0.16	0.00	0.00	0.77	0.77	0.28	0.39	0.73	0.06		
Avail Cap(c_a), veh/h	208	1787	0	0	614	635	1466	289	245	552		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.96	0.96	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	38.9	0.0	0.0	0.0	14.1	14.1	20.7	45.1	47.0	29.6		
Incr Delay (d2), s/veh	5.3	0.2	0.0	0.0	8.5	8.3	0.5	0.4	4.4	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	0.0	5.6	5.8	3.6	2.1	3.8	0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.2	0.2	0.0	0.0	22.6	22.4	21.2	45.5	51.4	29.8		
LnGrp LOS	D	A	A	A	C	C	C	D	D	C		
Approach Vol, veh/h		361			957			633				
Approach Delay, s/veh		10.2			22.5			30.8				
Approach LOS		B			C			C				

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	59.3	50.7		17.3	42.0	34.0	16.7
Change Period (Y+Rc), s	4.5	4.0		4.5	* 4.5	4.0	5.5
Max Green Setting (Gmax), s	50.5	17.0		9.0	* 38	30.0	15.5
Max Q Clear Time (g_c+I1), s	2.0	10.6		6.3	21.1	3.5	11.0
Green Ext Time (p_c), s	1.1	0.5		0.0	3.2	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1564	172	233	588	0	0	0	0	464	7	1002
Future Volume (veh/h)	0	1564	172	233	588	0	0	0	0	464	7	1002
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	1664	183	248	626	0				499	0	1066
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	1915	211	332	2317	0				1264	0	1124
Arrive On Green	0.00	0.32	0.32	0.10	0.45	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	6189	652	3456	5274	0				2607	0	2319
Grp Volume(v), veh/h	0	1355	492	248	626	0				499	0	1066
Grp Sat Flow(s),veh/h/ln	0	1609	1753	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	34.3	34.4	9.1	9.9	0.0				15.9	0.0	57.0
Cycle Q Clear(g_c), s	0.0	34.3	34.4	9.1	9.9	0.0				15.9	0.0	57.0
Prop In Lane	0.00		0.37	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1559	566	332	2317	0				1264	0	1124
V/C Ratio(X)	0.00	0.87	0.87	0.75	0.27	0.00				0.39	0.00	0.95
Avail Cap(c_a), veh/h	0	1559	566	332	2317	0				1303	0	1160
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.73	0.73	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	41.4	41.5	57.2	22.1	0.0				21.3	0.0	31.9
Incr Delay (d2), s/veh	0.0	5.1	12.7	9.3	0.3	0.0				0.2	0.0	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.8	16.3	4.3	3.9	0.0				4.7	0.0	17.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	46.6	54.2	66.5	22.4	0.0				21.5	0.0	47.3
LnGrp LOS	A	D	D	E	C	A				C	A	D
Approach Vol, veh/h		1847			874						1565	
Approach Delay, s/veh		48.6			34.9						39.1	
Approach LOS		D			C						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.0	46.0		67.0		63.0
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	12.5	* 42		64.0		56.5
Max Q Clear Time (g_c+I1), s	11.1	36.4		59.0		11.9
Green Ext Time (p_c), s	0.0	3.4		3.1		2.7

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1051	1032	0	686	202	322
Future Volume (veh/h)	1051	1032	0	686	202	322
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1130	0	0	738	217	346
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	3771		0	4751	691	317
Arrive On Green	0.74	0.00	0.00	0.74	0.20	0.20
Sat Flow, veh/h	5443	0	0	6958	3456	1585
Grp Volume(v), veh/h	1130	0	0	738	217	346
Grp Sat Flow(s),veh/h/ln	1702	0	0	1609	1728	1585
Q Serve(g_s), s	9.7	0.0	0.0	4.4	7.0	26.0
Cycle Q Clear(g_c), s	9.7	0.0	0.0	4.4	7.0	26.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3771		0	4751	691	317
V/C Ratio(X)	0.30		0.00	0.16	0.31	1.09
Avail Cap(c_a), veh/h	3771		0	4751	691	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	5.7	0.0	0.0	5.0	44.4	52.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.1	77.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	1.2	3.0	16.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	5.9	0.0	0.0	5.0	44.5	129.3
LnGrp LOS	A		A	A	D	F
Approach Vol, veh/h	1130	A		738	563	
Approach Delay, s/veh	5.9			5.0	96.6	
Approach LOS	A			A	F	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	100.0				100.0	30.0
Change Period (Y+Rc), s	4.5				4.5	5.0
Max Green Setting (Gmax), s	70.9				20.1	25.0
Max Q Clear Time (g_c+I1), s	11.7				6.4	28.0
Green Ext Time (p_c), s	5.6				2.7	0.0

Intersection Summary		
HCM 6th Ctrl Delay		26.6
HCM 6th LOS		C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	555	90	219	1000	273	183	281	134	133	118	36
Future Volume (veh/h)	168	555	90	219	1000	273	183	281	134	133	118	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	183	603	44	238	1087	264	199	305	0	145	128	5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	2498	776	306	1914	465	520	372		208	185	157
Arrive On Green	0.12	0.49	0.49	0.09	0.47	0.46	0.15	0.20	0.00	0.06	0.10	0.10
Sat Flow, veh/h	1781	5106	1585	3456	4100	995	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	183	603	44	238	902	449	199	305	0	145	128	5
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1691	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	10.5	7.1	1.5	7.0	20.0	20.2	5.4	16.3	0.0	4.3	6.9	0.2
Cycle Q Clear(g_c), s	10.5	7.1	1.5	7.0	20.0	20.2	5.4	16.3	0.0	4.3	6.9	0.2
Prop In Lane	1.00		1.00	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	2498	776	306	1589	789	520	372		208	185	157
V/C Ratio(X)	0.85	0.24	0.06	0.78	0.57	0.57	0.38	0.82		0.70	0.69	0.03
Avail Cap(c_a), veh/h	359	2498	776	497	1589	789	520	682		332	664	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	15.4	14.0	46.5	20.2	20.4	39.9	40.0	0.0	48.1	45.4	24.5
Incr Delay (d2), s/veh	4.4	0.2	0.1	1.6	1.5	3.0	0.2	4.5	0.0	1.6	4.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	2.6	0.5	3.0	7.6	8.0	2.2	7.6	0.0	1.9	3.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	15.6	14.1	48.1	21.6	23.4	40.1	44.5	0.0	49.6	50.0	24.6
LnGrp LOS	D	B	B	D	C	C	D	D		D	D	C
Approach Vol, veh/h		830			1589			504	A		278	
Approach Delay, s/veh		23.0			26.1			42.7			49.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	55.0	20.7	14.3	16.6	52.7	10.3	24.7
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	* 4	5.0	* 4	5.0
Max Green Setting (Gmax), s	15.0	* 50	11.0	* 36	* 21	44.0	* 10	37.0
Max Q Clear Time (g_c+I1), s	9.0	9.1	7.4	8.9	12.5	22.2	6.3	18.3
Green Ext Time (p_c), s	0.2	6.4	0.1	0.6	0.1	12.2	0.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↰	↱↱
Traffic Volume (veh/h)	0	607	365	14	1314	0	0	0	0	329	6	931
Future Volume (veh/h)	0	607	365	14	1314	0	0	0	0	329	6	931
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	660	174	15	1428	0				358	7	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2210	986	82	2484	0				419	8	
Arrive On Green	0.00	0.62	0.62	0.05	0.70	0.00				0.24	0.24	0.00
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1749	34	2790
Grp Volume(v), veh/h	0	660	174	15	1428	0				365	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1783	0	1395
Q Serve(g_s), s	0.0	11.2	6.1	1.1	26.3	0.0				25.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.2	6.1	1.1	26.3	0.0				25.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	2210	986	82	2484	0				427	0	
V/C Ratio(X)	0.00	0.30	0.18	0.18	0.57	0.00				0.85	0.00	
Avail Cap(c_a), veh/h	0	2210	986	82	2484	0				782	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.68	0.68	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	11.4	10.4	59.6	9.9	0.0				47.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.7	0.7	0.0				5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	2.0	0.5	9.0	0.0				11.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.7	10.7	60.4	10.5	0.0				52.2	0.0	0.0
LnGrp LOS	A	B	B	E	B	A				D	A	
Approach Vol, veh/h		834			1443						365	A
Approach Delay, s/veh		11.5			11.0						52.2	
Approach LOS		B			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	84.9		35.1		94.9
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0
Max Green Setting (Gmax), s	5.0	54.0		55.5		64.0
Max Q Clear Time (g_c+I1), s	13.1	13.2		27.4		28.3
Green Ext Time (p_c), s	0.0	3.0		2.2		7.9

Intersection Summary	
HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	607	332	0	0	727	349	622	3	57	0	0	0
Future Volume (veh/h)	607	332	0	0	727	349	622	3	57	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	660	361	0	0	790	134	730	0	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	1256	1304	0	0	1077	480	859	451				
Arrive On Green	0.61	1.00	0.00	0.00	0.30	0.30	0.24	0.00	0.00			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	3563	1870	0			
Grp Volume(v), veh/h	660	361	0	0	790	134	730	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1781	1870	0			
Q Serve(g_s), s	14.3	0.0	0.0	0.0	25.9	8.4	25.4	0.0	0.0			
Cycle Q Clear(g_c), s	14.3	0.0	0.0	0.0	25.9	8.4	25.4	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	1256	1304	0	0	1077	480	859	451				
V/C Ratio(X)	0.53	0.28	0.00	0.00	0.73	0.28	0.85	0.00				
Avail Cap(c_a), veh/h	1256	1304	0	0	1077	480	1195	627				
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.91	0.91	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	19.1	0.0	0.0	0.0	40.6	34.5	47.1	0.0	0.0			
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.0	4.4	1.4	4.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.2	0.0	0.0	11.6	3.3	11.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.5	0.0	0.0	45.0	35.9	51.4	0.0	0.0			
LnGrp LOS	B	A	A	A	D	D	D	A				
Approach Vol, veh/h		1021			924			730	A			
Approach Delay, s/veh		12.7			43.7			51.4				
Approach LOS		B			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		94.6			51.2	43.4		35.4				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.5				
Max Green Setting (Gmax), s		77.4			34.0	38.4		42.1				
Max Q Clear Time (g_c+I1), s		2.0			16.3	27.9		27.4				
Green Ext Time (p_c), s		1.2			2.2	2.7		2.4				

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	599	74	56	741	166	199	290	188	225	134	175
Future Volume (veh/h)	173	599	74	56	741	166	199	290	188	225	134	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	651	73	61	805	166	216	315	119	245	146	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1551	174	79	1182	244	365	435	161	276	210	178
Arrive On Green	0.12	0.48	0.47	0.04	0.40	0.39	0.20	0.17	0.16	0.16	0.11	0.11
Sat Flow, veh/h	1781	3221	361	1781	2933	605	1781	2538	940	1781	1870	1585
Grp Volume(v), veh/h	188	359	365	61	488	483	216	219	215	245	146	28
Grp Sat Flow(s),veh/h/ln	1781	1777	1805	1781	1777	1761	1781	1777	1701	1781	1870	1585
Q Serve(g_s), s	11.2	14.2	14.2	3.7	24.4	24.5	11.9	12.6	13.0	14.6	8.1	1.3
Cycle Q Clear(g_c), s	11.2	14.2	14.2	3.7	24.4	24.5	11.9	12.6	13.0	14.6	8.1	1.3
Prop In Lane	1.00		0.20	1.00		0.34	1.00		0.55	1.00		1.00
Lane Grp Cap(c), veh/h	219	855	869	79	716	710	365	304	291	276	210	178
V/C Ratio(X)	0.86	0.42	0.42	0.78	0.68	0.68	0.59	0.72	0.74	0.89	0.70	0.16
Avail Cap(c_a), veh/h	313	855	869	165	716	710	365	461	441	396	519	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	18.2	18.3	51.1	26.5	26.7	38.9	42.3	42.7	44.7	46.2	24.9
Incr Delay (d2), s/veh	11.3	1.5	1.5	6.0	5.2	5.2	1.8	4.5	5.2	12.3	5.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	5.7	5.9	1.7	10.7	10.7	5.2	5.7	5.7	7.1	4.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	19.7	19.8	57.1	31.7	31.9	40.6	46.8	47.9	57.1	52.0	25.5
LnGrp LOS	E	B	B	E	C	C	D	D	D	E	D	C
Approach Vol, veh/h		912			1032			650			419	
Approach Delay, s/veh		27.6			33.3			45.1			53.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	56.0	27.1	16.1	17.3	47.5	20.7	22.5
Change Period (Y+Rc), s	4.0	* 5	* 5	* 5	4.0	* 5	4.0	* 5
Max Green Setting (Gmax), s	10.0	* 51	* 22	* 29	19.0	* 42	24.0	* 27
Max Q Clear Time (g_c+I1), s	15.7	16.2	13.9	10.1	13.2	26.5	16.6	15.0
Green Ext Time (p_c), s	0.0	6.7	0.2	1.0	0.1	7.0	0.2	2.5

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	966	287	121	566	0	0	0	0	230	3	214
Future Volume (veh/h)	0	966	287	121	566	0	0	0	0	230	3	214
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1050	294	132	615	0				250	3	41
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1479	411	348	2744	0				293	4	263
Arrive On Green	0.00	0.54	0.53	0.26	1.00	0.00				0.17	0.17	0.17
Sat Flow, veh/h	0	2840	764	1781	3647	0				1761	21	1585
Grp Volume(v), veh/h	0	677	667	132	615	0				253	0	41
Grp Sat Flow(s),veh/h/ln	0	1777	1733	1781	1777	0				1782	0	1585
Q Serve(g_s), s	0.0	36.9	37.7	7.9	0.0	0.0				17.9	0.0	2.9
Cycle Q Clear(g_c), s	0.0	36.9	37.7	7.9	0.0	0.0				17.9	0.0	2.9
Prop In Lane	0.00		0.44	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	957	933	348	2744	0				296	0	263
V/C Ratio(X)	0.00	0.71	0.72	0.38	0.22	0.00				0.85	0.00	0.16
Avail Cap(c_a), veh/h	0	957	933	348	2744	0				425	0	378
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	22.4	22.7	41.6	0.0	0.0				52.7	0.0	46.4
Incr Delay (d2), s/veh	0.0	4.4	4.7	0.5	0.1	0.0				8.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.7	15.8	3.4	0.1	0.0				8.6	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.8	27.4	42.1	0.1	0.0				60.8	0.0	46.5
LnGrp LOS	A	C	C	D	A	A				E	A	D
Approach Vol, veh/h		1344			747						294	
Approach Delay, s/veh		27.1			7.6						58.8	
Approach LOS		C			A						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.4	74.0		25.6		104.4
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	17.0	* 69		30.0		90.0
Max Q Clear Time (g_c+I1), s	19.9	39.7		19.9		2.0
Green Ext Time (p_c), s	0.2	6.5		0.7		2.9

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	630	564	0	0	496	357	209	2	133	0	0	0
Future Volume (veh/h)	630	564	0	0	496	357	209	2	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	685	613	0	0	539	296	227	2	127			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	1109	1320	0	0	767	420	253	2	142			
Arrive On Green	0.54	1.00	0.00	0.00	0.35	0.34	0.23	0.23	0.23			
Sat Flow, veh/h	3456	1870	0	0	2308	1214	1088	10	609			
Grp Volume(v), veh/h	685	613	0	0	432	403	356	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1652	1706	0	0			
Q Serve(g_s), s	17.9	0.0	0.0	0.0	27.3	27.5	26.3	0.0	0.0			
Cycle Q Clear(g_c), s	17.9	0.0	0.0	0.0	27.3	27.5	26.3	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.73	0.64		0.36			
Lane Grp Cap(c), veh/h	1109	1320	0	0	615	572	397	0	0			
V/C Ratio(X)	0.62	0.46	0.00	0.00	0.70	0.70	0.90	0.00	0.00			
Avail Cap(c_a), veh/h	1109	1320	0	0	615	572	512	0	0			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.70	0.70	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	24.6	0.0	0.0	0.0	36.7	37.1	48.5	0.0	0.0			
Incr Delay (d2), s/veh	0.7	0.8	0.0	0.0	6.6	7.1	13.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.8	0.3	0.0	0.0	12.8	12.1	12.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	0.8	0.0	0.0	43.3	44.2	61.9	0.0	0.0			
LnGrp LOS	C	A	A	A	D	D	E	A	A			
Approach Vol, veh/h		1298			835			356				
Approach Delay, s/veh		13.8			43.8			61.9				
Approach LOS		B			D			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.7			46.7	49.0		34.3				
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0				
Max Green Setting (Gmax), s		82.0			34.0	* 44		38.0				
Max Q Clear Time (g_c+I1), s		2.0			19.9	29.5		28.3				
Green Ext Time (p_c), s		2.5			2.2	3.1		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	189	181	102	479	205	951	762	372	40	47	28
Future Volume (veh/h)	15	189	181	102	479	205	951	762	372	40	47	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	205	33	111	521	165	1034	828	197	43	51	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	20	287	244	131	884	272	874	1897	846	54	257	10
Arrive On Green	0.01	0.15	0.15	0.07	0.23	0.22	0.49	0.53	0.53	0.03	0.07	0.06
Sat Flow, veh/h	1781	1870	1585	1781	3869	1191	1781	3554	1585	1781	3487	136
Grp Volume(v), veh/h	16	205	33	111	457	229	1034	828	197	43	26	27
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1656	1781	1777	1585	1781	1777	1846
Q Serve(g_s), s	0.7	8.5	0.4	5.0	9.7	10.2	40.0	11.5	3.0	2.0	1.1	1.1
Cycle Q Clear(g_c), s	0.7	8.5	0.4	5.0	9.7	10.2	40.0	11.5	3.0	2.0	1.1	1.1
Prop In Lane	1.00		1.00	1.00		0.72	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	20	287	244	131	777	378	874	1897	846	54	131	136
V/C Ratio(X)	0.80	0.71	0.14	0.85	0.59	0.61	1.18	0.44	0.23	0.80	0.20	0.20
Avail Cap(c_a), veh/h	131	734	622	131	1336	650	874	2964	1322	175	785	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	32.8	2.3	37.3	28.0	28.5	20.8	11.5	3.1	39.3	35.5	35.5
Incr Delay (d2), s/veh	50.7	3.3	0.2	37.4	0.7	1.6	94.1	0.2	0.1	22.6	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.8	0.5	3.4	3.7	3.9	36.5	3.8	1.5	1.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	36.1	2.5	74.7	28.7	30.1	114.9	11.7	3.2	61.8	36.2	36.3
LnGrp LOS	F	D	A	E	C	C	F	B	A	E	D	D
Approach Vol, veh/h		254			797			2059			96	
Approach Delay, s/veh		35.2			35.5			62.7			47.7	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	16.5	44.0	10.0	4.9	22.6	6.5	47.5
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	* 31	40.0	35.0	6.0	31.0	8.0	67.0
Max Q Clear Time (g_c+I1), s	7.0	10.5	42.0	3.1	2.7	12.2	4.0	13.5
Green Ext Time (p_c), s	0.0	1.0	0.0	0.2	0.0	3.9	0.0	7.1

Intersection Summary	
HCM 6th Ctrl Delay	53.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↲	↱↱
Traffic Volume (veh/h)	0	1177	9	42	33	0	0	0	0	244	2	136
Future Volume (veh/h)	0	1177	9	42	33	0	0	0	0	244	2	136
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1279	6	46	36	0				265	2	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2096	935	59	2324	0				503	4	794
Arrive On Green	0.00	0.59	0.59	0.03	0.65	0.00				0.28	0.28	0.28
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1769	13	2790
Grp Volume(v), veh/h	0	1279	6	46	36	0				267	0	40
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1782	0	1395
Q Serve(g_s), s	0.0	30.0	0.2	3.3	0.5	0.0				16.4	0.0	1.4
Cycle Q Clear(g_c), s	0.0	30.0	0.2	3.3	0.5	0.0				16.4	0.0	1.4
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	2096	935	59	2324	0				507	0	794
V/C Ratio(X)	0.00	0.61	0.01	0.77	0.02	0.00				0.53	0.00	0.05
Avail Cap(c_a), veh/h	0	2096	935	123	2324	0				507	0	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.97	0.97	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.1	11.0	62.3	7.9	0.0				39.1	0.0	33.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	18.5	0.0	0.0				3.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.9	0.1	1.8	0.2	0.0				7.7	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.6	11.0	80.8	7.9	0.0				43.0	0.0	33.9
LnGrp LOS	A	B	B	F	A	A				D	A	C
Approach Vol, veh/h		1285			82						307	
Approach Delay, s/veh		17.6			48.8						41.8	
Approach LOS		B			D						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.3	80.7		41.0		89.0
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	9.3	70.0		35.0		83.0
Max Q Clear Time (g_c+I1), s	5.3	32.0		18.4		2.5
Green Ext Time (p_c), s	0.0	12.3		1.6		0.2

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	747	674	0	0	74	149	2	5	106	0	0	0
Future Volume (veh/h)	747	674	0	0	74	149	2	5	106	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	812	733	0	0	80	11	2	5	26			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	2092	1309	0	0	199	89	126	314	665			
Arrive On Green	0.61	0.70	0.00	0.00	0.06	0.06	0.24	0.24	0.24			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	527	1317	2790			
Grp Volume(v), veh/h	812	733	0	0	80	11	7	0	26			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1844	0	1395			
Q Serve(g_s), s	15.8	25.1	0.0	0.0	2.8	0.9	0.4	0.0	0.9			
Cycle Q Clear(g_c), s	15.8	25.1	0.0	0.0	2.8	0.9	0.4	0.0	0.9			
Prop In Lane	1.00		0.00	0.00		1.00	0.29		1.00			
Lane Grp Cap(c), veh/h	2092	1309	0	0	199	89	440	0	665			
V/C Ratio(X)	0.39	0.56	0.00	0.00	0.40	0.12	0.02	0.00	0.04			
Avail Cap(c_a), veh/h	2092	1309	0	0	1039	463	440	0	665			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.2	9.6	0.0	0.0	59.3	58.3	37.8	0.0	38.1			
Incr Delay (d2), s/veh	0.1	1.3	0.0	0.0	1.3	0.6	0.1	0.0	0.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.9	9.8	0.0	0.0	1.3	0.4	0.2	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	10.9	0.0	0.0	60.6	58.9	37.9	0.0	38.2			
LnGrp LOS	B	B	A	A	E	E	D	A	D			
Approach Vol, veh/h		1545			91			33				
Approach Delay, s/veh		12.2			60.4			38.1				
Approach LOS		B			E			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.0			83.7	11.3		35.0				
Change Period (Y+Rc), s		6.0			6.0	* 6		6.0				
Max Green Setting (Gmax), s		89.0			48.0	* 36		29.0				
Max Q Clear Time (g_c+I1), s		27.1			17.8	4.8		2.9				
Green Ext Time (p_c), s		6.1			3.3	0.5		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	991	83	57	75	275	0	0	0	61	2	275
Future Volume (veh/h)	0	991	83	57	75	275	0	0	0	61	2	275
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1077	66	62	82	215				66	2	299
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	2				2	2	2
Cap, veh/h	0	1203	1019	132	294	770				512	16	468
Arrive On Green	0.00	0.64	0.64	1.00	1.00	1.00				0.30	0.30	0.30
Sat Flow, veh/h	0	1870	1585	492	457	1198				1731	52	1585
Grp Volume(v), veh/h	0	1077	66	62	0	297				68	0	299
Grp Sat Flow(s),veh/h/ln	0	1870	1585	492	0	1655				1784	0	1585
Q Serve(g_s), s	0.0	63.0	2.0	15.5	0.0	0.0				3.6	0.0	21.3
Cycle Q Clear(g_c), s	0.0	63.0	2.0	78.9	0.0	0.0				3.6	0.0	21.3
Prop In Lane	0.00		1.00	1.00		0.72				0.97		1.00
Lane Grp Cap(c), veh/h	0	1203	1019	132	0	1064				527	0	468
V/C Ratio(X)	0.00	0.90	0.06	0.47	0.00	0.28				0.13	0.00	0.64
Avail Cap(c_a), veh/h	0	1324	1122	163	0	1171				527	0	468
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	0.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	19.5	8.6	30.0	0.0	0.0				33.5	0.0	39.8
Incr Delay (d2), s/veh	0.0	7.8	0.0	2.6	0.0	0.1				0.5	0.0	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	28.1	0.7	1.9	0.0	0.0				1.7	0.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	27.3	8.7	32.6	0.0	0.1				34.0	0.0	46.3
LnGrp LOS	A	C	A	C	A	A				C	A	D
Approach Vol, veh/h		1143			359						367	
Approach Delay, s/veh		26.2			5.7						44.0	
Approach LOS		C			A						D	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		87.7		42.3		87.7
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		91.0		29.0		91.0
Max Q Clear Time (g_c+I1), s		65.0		23.3		80.9
Green Ext Time (p_c), s		11.1		0.7		1.9

Intersection Summary		
HCM 6th Ctrl Delay		25.8
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	358	694	0	0	100	72	30	8	591	0	0	0
Future Volume (veh/h)	358	694	0	0	100	72	30	8	591	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	389	754	0	0	109	29	33	9	638			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	314	820	0	0	820	366	55	15	1060			
Arrive On Green	0.08	0.08	0.00	0.00	0.23	0.23	0.71	0.71	0.70			
Sat Flow, veh/h	1251	3647	0	0	3647	1585	77	21	1498			
Grp Volume(v), veh/h	389	754	0	0	109	29	680	0	0			
Grp Sat Flow(s),veh/h/ln	1251	1777	0	0	1777	1585	1597	0	0			
Q Serve(g_s), s	26.8	27.4	0.0	0.0	3.2	1.9	28.7	0.0	0.0			
Cycle Q Clear(g_c), s	30.0	27.4	0.0	0.0	3.2	1.9	28.7	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.05		0.94			
Lane Grp Cap(c), veh/h	314	820	0	0	820	366	1130	0	0			
V/C Ratio(X)	1.24	0.92	0.00	0.00	0.13	0.08	0.60	0.00	0.00			
Avail Cap(c_a), veh/h	314	820	0	0	820	366	1130	0	0			
HCM Platoon Ratio	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.51	0.51	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	64.0	58.8	0.0	0.0	39.7	39.2	10.0	0.0	0.0			
Incr Delay (d2), s/veh	121.6	8.9	0.0	0.0	0.1	0.1	2.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	21.6	14.2	0.0	0.0	1.4	0.7	10.1	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	185.6	67.8	0.0	0.0	39.8	39.3	12.4	0.0	0.0			
LnGrp LOS	F	E	A	A	D	D	B	A	A			
Approach Vol, veh/h		1143			138			680				
Approach Delay, s/veh		107.9			39.7			12.4				
Approach LOS		F			D			B				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	96.0	34.0	34.0
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	91.0	29.0	29.0
Max Q Clear Time (g_c+I1), s	30.7	32.0	5.2
Green Ext Time (p_c), s	6.7	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	253	144	38	193	0	0	0	0	68	1	188
Future Volume (veh/h)	0	253	144	38	193	0	0	0	0	68	1	188
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	275	16	41	210	0				74	0	186
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	626	194	135	436	0				1453	0	2586
Arrive On Green	0.00	0.12	0.12	0.08	0.08	0.00				0.82	0.00	0.82
Sat Flow, veh/h	0	5274	1585	1088	3647	0				1781	0	3170
Grp Volume(v), veh/h	0	275	16	41	210	0				74	0	186
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1088	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	6.5	1.2	4.8	7.3	0.0				1.0	0.0	1.5
Cycle Q Clear(g_c), s	0.0	6.5	1.2	11.3	7.3	0.0				1.0	0.0	1.5
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	626	194	135	436	0				1453	0	2586
V/C Ratio(X)	0.00	0.44	0.08	0.30	0.48	0.00				0.05	0.00	0.07
Avail Cap(c_a), veh/h	0	3614	1122	771	2515	0				1453	0	2586
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	52.9	50.5	60.7	55.7	0.0				2.3	0.0	2.3
Incr Delay (d2), s/veh	0.0	0.5	0.2	1.3	0.8	0.0				0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.8	0.5	1.4	3.4	0.0				0.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	53.4	50.7	61.9	56.5	0.0				2.4	0.0	2.4
LnGrp LOS	A	D	D	E	E	A				A	A	A
Approach Vol, veh/h		291			251						260	
Approach Delay, s/veh		53.2			57.4						2.4	
Approach LOS		D			E						A	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		19.9		110.1		19.9
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		91.0		29.0		91.0
Max Q Clear Time (g_c+I1), s		8.5		3.5		13.3
Green Ext Time (p_c), s		2.1		0.9		1.7

Intersection Summary		
HCM 6th Ctrl Delay		38.1
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	91	0	0	56	93	196	10	421	0	0	0
Future Volume (veh/h)	170	91	0	0	56	93	196	10	421	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	185	99	0	0	61	12	146	0	491			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	373	417	0	0	417	186	1463	0	2603			
Arrive On Green	0.20	0.20	0.00	0.00	0.12	0.12	0.82	0.00	0.82			
Sat Flow, veh/h	2574	3647	0	0	3647	1585	1781	0	3170			
Grp Volume(v), veh/h	185	99	0	0	61	12	146	0	491			
Grp Sat Flow(s),veh/h/ln	1287	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	8.8	3.1	0.0	0.0	2.0	0.9	2.1	0.0	4.3			
Cycle Q Clear(g_c), s	10.8	3.1	0.0	0.0	2.0	0.9	2.1	0.0	4.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	373	417	0	0	417	186	1463	0	2603			
V/C Ratio(X)	0.50	0.24	0.00	0.00	0.15	0.06	0.10	0.00	0.19			
Avail Cap(c_a), veh/h	1893	2515	0	0	2515	1122	1463	0	2603			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.92	0.92	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	51.4	47.4	0.0	0.0	51.5	51.0	2.3	0.0	2.5			
Incr Delay (d2), s/veh	0.9	0.3	0.0	0.0	0.2	0.1	0.1	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.7	1.4	0.0	0.0	0.9	0.4	0.6	0.0	1.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.4	47.6	0.0	0.0	51.7	51.2	2.4	0.0	2.6			
LnGrp LOS	D	D	A	A	D	D	A	A	A			
Approach Vol, veh/h		284			73			637				
Approach Delay, s/veh		50.7			51.6			2.6				
Approach LOS		D			D			A				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	110.8	19.2	19.2
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	91.0	91.0
Max Q Clear Time (g_c+I1), s	6.3	12.8	4.0
Green Ext Time (p_c), s	2.5	1.4	0.5

Intersection Summary	
HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	219	20	415	640	61	18	283	319	41	334	249
Future Volume (veh/h)	84	219	20	415	640	61	18	283	319	41	334	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	238	22	451	696	63	20	308	347	45	363	81
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	1380	615	554	1728	738	57	851	650	83	903	403
Arrive On Green	0.06	0.39	0.39	0.16	0.49	0.47	0.03	0.24	0.24	0.05	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	91	238	22	451	696	63	20	308	347	45	363	81
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.9	4.2	0.8	12.2	12.1	2.1	1.1	7.0	16.0	2.4	8.2	3.9
Cycle Q Clear(g_c), s	4.9	4.2	0.8	12.2	12.1	2.1	1.1	7.0	16.0	2.4	8.2	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	1380	615	554	1728	738	57	851	650	83	903	403
V/C Ratio(X)	0.82	0.17	0.04	0.81	0.40	0.09	0.35	0.36	0.53	0.54	0.40	0.20
Avail Cap(c_a), veh/h	111	1380	615	644	1728	738	111	2022	1172	111	2022	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	19.4	18.3	39.2	15.9	14.4	45.8	30.6	21.5	45.1	29.9	28.3
Incr Delay (d2), s/veh	35.3	0.3	0.1	6.0	0.7	0.2	1.4	0.3	0.7	2.0	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.7	0.3	5.4	4.6	0.8	0.5	2.9	5.6	1.1	3.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.1	19.7	18.4	45.2	16.6	14.6	47.2	30.9	22.2	47.1	30.2	28.6
LnGrp LOS	F	B	B	D	B	B	D	C	C	D	C	C
Approach Vol, veh/h		351			1210			675			489	
Approach Delay, s/veh		35.3			27.1			26.9			31.5	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	41.5	7.1	28.6	10.0	51.0	8.5	27.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	17.0	33.0	5.0	53.0	5.0	45.0	5.0	53.0
Max Q Clear Time (g_c+I1), s	14.2	6.2	3.1	10.2	6.9	14.1	4.4	18.0
Green Ext Time (p_c), s	0.3	2.0	0.0	2.6	0.0	7.2	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	141	246	204	309	266	186	448	95	112	670	105
Future Volume (veh/h)	109	141	246	204	309	266	186	448	95	112	670	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	120	155	178	224	340	169	204	492	55	123	736	107
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	539	351	263	461	225	279	1413	848	238	1403	204
Arrive On Green	0.09	0.15	0.14	0.15	0.20	0.19	0.08	0.40	0.39	0.13	0.45	0.44
Sat Flow, veh/h	1781	3554	1585	1781	2315	1129	3456	3554	1585	1781	3113	452
Grp Volume(v), veh/h	120	155	178	224	259	250	204	492	55	123	420	423
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1667	1728	1777	1585	1781	1777	1789
Q Serve(g_s), s	6.2	3.7	2.3	11.6	12.9	13.4	5.5	9.1	0.7	6.1	16.1	16.1
Cycle Q Clear(g_c), s	6.2	3.7	2.3	11.6	12.9	13.4	5.5	9.1	0.7	6.1	16.1	16.1
Prop In Lane	1.00		1.00	1.00		0.68	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	160	539	351	263	354	332	279	1413	848	238	801	806
V/C Ratio(X)	0.75	0.29	0.51	0.85	0.73	0.75	0.73	0.35	0.06	0.52	0.52	0.52
Avail Cap(c_a), veh/h	565	1368	721	452	571	536	402	1413	848	301	801	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.0	35.6	14.9	39.3	35.5	36.0	42.5	19.9	3.4	38.1	18.7	18.8
Incr Delay (d2), s/veh	6.9	0.3	1.1	7.5	2.9	3.4	3.9	0.7	0.1	1.7	2.5	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.5	2.0	5.4	5.7	5.6	2.4	3.8	0.3	2.6	6.5	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.9	35.9	16.0	46.8	38.4	39.4	46.3	20.6	3.5	39.9	21.1	21.2
LnGrp LOS	D	D	B	D	D	D	D	C	A	D	C	C
Approach Vol, veh/h		453			733			751			966	
Approach Delay, s/veh		31.5			41.3			26.3			23.6	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	41.6	18.0	18.3	11.6	46.6	13.5	22.8
Change Period (Y+Rc), s	* 4	5.0	4.0	* 5	* 4	5.0	* 5	* 5
Max Green Setting (Gmax), s	* 16	36.6	24.0	* 35	* 11	41.6	* 30	* 29
Max Q Clear Time (g_c+I1), s	8.1	11.1	13.6	5.7	7.5	18.1	8.2	15.4
Green Ext Time (p_c), s	0.2	3.5	0.4	1.5	0.2	5.0	0.3	2.5

Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	542	621	0	945	607	556
Future Volume (veh/h)	542	621	0	945	607	556
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	629	632	0	1027	660	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	794	706	0	2184	1520	
Arrive On Green	0.45	0.45	0.00	0.43	0.43	0.00
Sat Flow, veh/h	1781	1585	0	5443	3647	1585
Grp Volume(v), veh/h	629	632	0	1027	660	0
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1777	1585
Q Serve(g_s), s	19.1	23.2	0.0	9.1	8.2	0.0
Cycle Q Clear(g_c), s	19.1	23.2	0.0	9.1	8.2	0.0
Prop In Lane	1.00	1.00	0.00			1.00
Lane Grp Cap(c), veh/h	794	706	0	2184	1520	
V/C Ratio(X)	0.79	0.89	0.00	0.47	0.43	
Avail Cap(c_a), veh/h	847	753	0	2184	1520	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.0	16.1	0.0	12.9	12.7	0.0
Incr Delay (d2), s/veh	4.9	12.8	0.0	0.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	9.7	0.0	3.1	3.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.9	28.9	0.0	13.7	13.6	0.0
LnGrp LOS	B	C	A	B	B	
Approach Vol, veh/h	1261			1027	660	A
Approach Delay, s/veh	24.4			13.7	13.6	
Approach LOS	C			B	B	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	31.0		32.1		31.0
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	26.0		29.0		26.0
Max Q Clear Time (g_c+I1), s	11.1		25.2		10.2
Green Ext Time (p_c), s	4.4		1.9		2.7

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	228	28	41	398	161	134	295	36	169	109	106
Future Volume (veh/h)	141	228	28	41	398	161	134	295	36	169	109	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	248	30	45	433	153	146	321	39	184	118	76
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	1377	165	197	1276	446	182	514	62	262	287	173
Arrive On Green	0.07	0.43	0.41	0.11	0.49	0.48	0.10	0.16	0.15	0.08	0.13	0.12
Sat Flow, veh/h	3456	3196	383	1781	2581	903	1781	3193	385	3456	2133	1283
Grp Volume(v), veh/h	153	137	141	45	297	289	146	177	183	184	97	97
Grp Sat Flow(s),veh/h/ln	1728	1777	1802	1781	1777	1708	1781	1777	1801	1728	1777	1639
Q Serve(g_s), s	3.4	3.7	3.8	1.8	8.0	8.3	6.3	7.3	7.5	4.1	3.9	4.3
Cycle Q Clear(g_c), s	3.4	3.7	3.8	1.8	8.0	8.3	6.3	7.3	7.5	4.1	3.9	4.3
Prop In Lane	1.00		0.21	1.00		0.53	1.00		0.21	1.00		0.78
Lane Grp Cap(c), veh/h	229	765	776	197	878	844	182	286	290	262	239	220
V/C Ratio(X)	0.67	0.18	0.18	0.23	0.34	0.34	0.80	0.62	0.63	0.70	0.41	0.44
Avail Cap(c_a), veh/h	263	765	776	248	878	844	497	1418	1438	263	1058	976
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	13.8	14.0	32.0	12.1	12.4	34.6	30.9	31.0	35.6	31.3	31.8
Incr Delay (d2), s/veh	3.6	0.5	0.5	0.2	1.0	1.1	3.1	2.2	2.3	6.9	1.1	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.4	1.5	0.7	2.9	2.9	2.8	3.2	3.3	1.9	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	14.4	14.5	32.2	13.2	13.5	37.7	33.1	33.3	42.5	32.4	33.2
LnGrp LOS	D	B	B	C	B	B	D	C	C	D	C	C
Approach Vol, veh/h		431			631			506			378	
Approach Delay, s/veh		23.3			14.7			34.5			37.5	
Approach LOS		C			B			C			D	

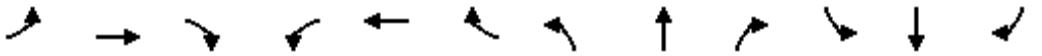
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	38.0	12.1	14.6	9.2	43.0	10.0	16.7
Change Period (Y+Rc), s	5.5	* 5.5	* 4	5.0	* 4	5.5	* 4	5.0
Max Green Setting (Gmax), s	11.0	* 33	* 22	46.0	* 6	37.5	* 6	62.0
Max Q Clear Time (g_c+I1), s	13.8	5.8	8.3	6.3	5.4	10.3	6.1	9.5
Green Ext Time (p_c), s	0.0	1.4	0.1	1.2	0.0	3.4	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Existing Year (2017) PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	257	141	286	228	0	0	0	0	169	1	198
Future Volume (veh/h)	0	257	141	286	228	0	0	0	0	169	1	198
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1885	1885	1885	0				1885	1885	1885
Adj Flow Rate, veh/h	0	279	95	311	248	0				185	0	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	1	1	1	1	0				1	1	1
Cap, veh/h	0	1529	509	553	1433	0				346	0	154
Arrive On Green	0.00	0.58	0.57	0.11	0.76	0.00				0.10	0.00	0.10
Sat Flow, veh/h	0	2733	879	5063	1885	0				3591	0	1598
Grp Volume(v), veh/h	0	187	187	311	248	0				185	0	28
Grp Sat Flow(s),veh/h/ln	0	1791	1727	1688	1885	0				1795	0	1598
Q Serve(g_s), s	0.0	3.4	3.6	4.1	2.5	0.0				3.4	0.0	1.1
Cycle Q Clear(g_c), s	0.0	3.4	3.6	4.1	2.5	0.0				3.4	0.0	1.1
Prop In Lane	0.00		0.51	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1038	1001	553	1433	0				346	0	154
V/C Ratio(X)	0.00	0.18	0.19	0.56	0.17	0.00				0.54	0.00	0.18
Avail Cap(c_a), veh/h	0	1038	1001	944	1433	0				1906	0	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.9	7.0	29.5	2.3	0.0				30.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.9	0.3	0.0				0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.1	1.1	1.6	0.4	0.0				1.4	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.3	7.5	30.4	2.6	0.0				30.5	0.0	29.2
LnGrp LOS	A	A	A	C	A	A				C	A	C
Approach Vol, veh/h		374			559						213	
Approach Delay, s/veh		7.4			18.0						30.3	
Approach LOS		A			B						C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		58.0			12.6	45.4		11.7				
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0				
Max Green Setting (Gmax), s		52.0			12.0	34.0		36.0				
Max Q Clear Time (g_c+I1), s		4.5			6.1	5.6		5.4				
Green Ext Time (p_c), s		0.8			0.6	1.2		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			16.8									
HCM 6th LOS			B									

Notes

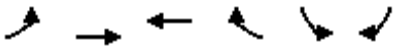
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	215	0	0	371	52	154	0	1189	0	0	0
Future Volume (veh/h)	163	215	0	0	371	52	154	0	1189	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	173	229	0	0	395	44	164	0	1106			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	226	1632	0	0	1353	148	773	0	1210			
Arrive On Green	0.13	0.46	0.00	0.00	0.29	0.28	0.43	0.00	0.43			
Sat Flow, veh/h	1781	3647	0	0	4840	511	1781	0	2790			
Grp Volume(v), veh/h	173	229	0	0	286	153	164	0	1106			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1778	1781	0	1395			
Q Serve(g_s), s	8.8	3.5	0.0	0.0	6.1	6.3	5.4	0.0	34.8			
Cycle Q Clear(g_c), s	8.8	3.5	0.0	0.0	6.1	6.3	5.4	0.0	34.8			
Prop In Lane	1.00		0.00	0.00		0.29	1.00		1.00			
Lane Grp Cap(c), veh/h	226	1632	0	0	986	515	773	0	1210			
V/C Ratio(X)	0.77	0.14	0.00	0.00	0.29	0.30	0.21	0.00	0.91			
Avail Cap(c_a), veh/h	342	1632	0	0	986	515	894	0	1400			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.5	14.6	0.0	0.0	25.8	26.0	16.5	0.0	24.9			
Incr Delay (d2), s/veh	5.5	0.2	0.0	0.0	0.7	1.5	0.1	0.0	8.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.0	1.3	0.0	0.0	2.4	2.7	2.1	0.0	12.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	14.8	0.0	0.0	26.5	27.4	16.6	0.0	32.9			
LnGrp LOS	D	B	A	A	C	C	B	A	C			
Approach Vol, veh/h		402			439			1270				
Approach Delay, s/veh		27.8			26.8			30.8				
Approach LOS		C			C			C				

Timer - Assigned Phs	1	2		4		6			
Phs Duration (G+Y+Rc), s	15.9	32.1		45.6		48.0			
Change Period (Y+Rc), s	5.0	6.0		6.0		6.0			
Max Green Setting (Gmax), s	17.0	20.0		46.0		42.0			
Max Q Clear Time (g_c+I1), s	10.8	8.3		36.8		5.5			
Green Ext Time (p_c), s	0.2	1.3		2.8		0.9			

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	141	1255	338	14	17	67
Future Volume (veh/h)	141	1255	338	14	17	67
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	1364	367	12	18	69
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	278	2711	1109	36	278	496
Arrive On Green	0.16	0.53	0.22	0.22	0.16	0.16
Sat Flow, veh/h	1781	5274	5248	165	1781	1585
Grp Volume(v), veh/h	153	1364	245	134	18	69
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1841	1781	1585
Q Serve(g_s), s	2.5	5.5	1.9	2.0	0.3	1.0
Cycle Q Clear(g_c), s	2.5	5.5	1.9	2.0	0.3	1.0
Prop In Lane	1.00			0.09	1.00	1.00
Lane Grp Cap(c), veh/h	278	2711	743	402	278	496
V/C Ratio(X)	0.55	0.50	0.33	0.33	0.06	0.14
Avail Cap(c_a), veh/h	1615	4630	3087	1669	1615	1685
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.5	4.8	10.5	10.5	11.5	7.9
Incr Delay (d2), s/veh	1.7	0.1	0.3	0.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.5	0.5	0.1	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.1	4.9	10.8	11.0	11.6	8.0
LnGrp LOS	B	A	B	B	B	A
Approach Vol, veh/h		1517	379		87	
Approach Delay, s/veh		5.9	10.9		8.8	
Approach LOS		A	B		A	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			22.0		10.0	10.0	12.0
Change Period (Y+Rc), s			5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s			29.0		29.0	29.0	29.0
Max Q Clear Time (g_c+I1), s			7.5		3.0	4.5	4.0
Green Ext Time (p_c), s			9.5		0.2	0.4	2.1

Intersection Summary		
HCM 6th Ctrl Delay		7.0
HCM 6th LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	12	104	115	9	10	64	298	24	6	596	32
Future Volume (veh/h)	21	12	104	115	9	10	64	298	24	6	596	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	13	11	125	10	1	70	324	22	7	648	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	44	103	88	104	149	15	90	2336	158	16	2241	111
Arrive On Green	0.02	0.06	0.06	0.06	0.09	0.08	0.05	0.69	0.68	0.01	0.65	0.64
Sat Flow, veh/h	1781	1870	1585	1781	1673	167	1781	3378	228	1781	3447	170
Grp Volume(v), veh/h	23	13	11	125	0	11	70	170	176	7	334	346
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1840	1781	1777	1829	1781	1777	1840
Q Serve(g_s), s	1.1	0.6	0.6	5.0	0.0	0.5	3.3	2.8	2.8	0.3	7.0	7.0
Cycle Q Clear(g_c), s	1.1	0.6	0.6	5.0	0.0	0.5	3.3	2.8	2.8	0.3	7.0	7.0
Prop In Lane	1.00		1.00	1.00		0.09	1.00		0.12	1.00		0.09
Lane Grp Cap(c), veh/h	44	103	88	104	0	163	90	1229	1265	16	1155	1196
V/C Ratio(X)	0.53	0.13	0.13	1.21	0.00	0.07	0.78	0.14	0.14	0.44	0.29	0.29
Avail Cap(c_a), veh/h	104	652	553	104	0	642	104	1229	1265	104	1155	1196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	41.4	38.7	38.7	40.5	0.0	36.0	40.4	4.5	4.5	42.4	6.5	6.5
Incr Delay (d2), s/veh	3.6	0.5	0.6	154.3	0.0	0.2	23.2	0.2	0.2	6.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.3	0.2	6.6	0.0	0.2	2.0	0.9	0.9	0.2	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	39.2	39.3	194.8	0.0	36.1	63.5	4.8	4.8	49.2	7.1	7.1
LnGrp LOS	D	D	D	F	A	D	E	A	A	D	A	A
Approach Vol, veh/h		47			136			416			687	
Approach Delay, s/veh		42.1			182.0			14.7			7.5	
Approach LOS		D			F			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	63.5	9.0	8.7	8.3	59.9	6.1	11.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	29.0	5.0	29.0	5.0	29.0	5.0	29.0
Max Q Clear Time (g_c+I1), s	2.3	4.8	7.0	2.6	5.3	9.0	3.1	2.5
Green Ext Time (p_c), s	0.0	2.8	0.0	0.1	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1079	11	9	334	59	6	14	7	190	23	240
Future Volume (veh/h)	159	1079	11	9	334	59	6	14	7	190	23	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	173	1173	12	10	363	64	7	15	8	207	25	261
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	2297	23	13	1719	300	101	191	86	370	369	454
Arrive On Green	0.08	0.64	0.62	0.01	0.57	0.55	0.20	0.20	0.18	0.20	0.20	0.20
Sat Flow, veh/h	3456	3604	37	1781	3024	528	227	968	435	1388	1870	1585
Grp Volume(v), veh/h	173	578	607	10	212	215	30	0	0	207	25	261
Grp Sat Flow(s),veh/h/ln	1728	1777	1864	1781	1777	1775	1630	0	0	1388	1870	1585
Q Serve(g_s), s	3.9	13.9	13.9	0.4	4.6	4.8	0.0	0.0	0.0	9.7	0.9	11.1
Cycle Q Clear(g_c), s	3.9	13.9	13.9	0.4	4.6	4.8	1.1	0.0	0.0	10.8	0.9	11.1
Prop In Lane	1.00		0.02	1.00		0.30	0.23		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	264	1132	1188	13	1010	1009	378	0	0	370	369	454
V/C Ratio(X)	0.66	0.51	0.51	0.75	0.21	0.21	0.08	0.00	0.00	0.56	0.07	0.58
Avail Cap(c_a), veh/h	480	1132	1188	112	1010	1009	696	0	0	657	755	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	7.7	7.7	39.2	8.4	8.5	26.1	0.0	0.0	29.7	25.9	24.2
Incr Delay (d2), s/veh	3.9	1.6	1.6	57.9	0.5	0.5	0.1	0.0	0.0	1.3	0.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.3	4.5	0.4	1.6	1.6	0.5	0.0	0.0	3.6	0.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	9.4	9.3	97.2	8.8	9.0	26.2	0.0	0.0	31.0	25.9	25.3
LnGrp LOS	D	A	A	F	A	A	C	A	A	C	C	C
Approach Vol, veh/h		1358			437			30			493	
Approach Delay, s/veh		13.2			10.9			26.2			27.7	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.6	54.0		19.6	11.0	48.5		19.6
Change Period (Y+Rc), s	5.0	* 5		5.0	5.0	* 5		5.0
Max Green Setting (Gmax), s	5.6	* 49		31.0	11.0	* 43		31.0
Max Q Clear Time (g_c+I1), s	2.4	15.9		13.1	5.9	6.8		3.1
Green Ext Time (p_c), s	0.0	8.5		1.5	0.3	2.4		0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



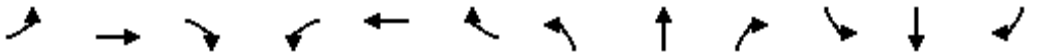
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	961	0	0	226	10	0	0	0	29	0	158
Future Volume (veh/h)	178	961	0	0	226	10	0	0	0	29	0	158
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	193	1045	0	0	246	7				32	0	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	1614	1942	0	247	1942	866				198	0	352
Arrive On Green	0.55	0.55	0.00	0.00	0.55	0.55				0.11	0.00	0.11
Sat Flow, veh/h	2186	3647	0	540	3554	1585				1781	0	3170
Grp Volume(v), veh/h	193	1045	0	0	246	7				32	0	97
Grp Sat Flow(s),veh/h/ln	1093	1777	0	540	1777	1585				1781	0	1585
Q Serve(g_s), s	1.4	5.5	0.0	0.0	1.0	0.1				0.5	0.0	0.8
Cycle Q Clear(g_c), s	2.4	5.5	0.0	0.0	1.0	0.1				0.5	0.0	0.8
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	1614	1942	0	247	1942	866				198	0	352
V/C Ratio(X)	0.12	0.54	0.00	0.00	0.13	0.01				0.16	0.00	0.28
Avail Cap(c_a), veh/h	2739	3772	0	524	3772	1682				1769	0	3148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	3.8	4.3	0.0	0.0	3.2	3.0				11.8	0.0	11.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0				0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.0	0.0	0.0				0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	3.8	4.5	0.0	0.0	3.3	3.0				12.1	0.0	12.3
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		1238			253						129	
Approach Delay, s/veh		4.4			3.2						12.3	
Approach LOS		A			A						B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	21.0	21.0	8.2
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	31.0	31.0	29.0
Max Q Clear Time (g_c+I1), s	3.0	7.5	2.8
Green Ext Time (p_c), s	1.4	8.4	0.4

Intersection Summary	
HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	1067	278	210	781	104	364	166	143	42	73	24
Future Volume (veh/h)	96	1067	278	210	781	104	364	166	143	42	73	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	104	1160	282	228	849	105	396	180	106	46	79	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	1999	1097	204	1949	241	447	302	437	59	105	15
Arrive On Green	0.06	0.56	0.56	0.11	0.61	0.61	0.13	0.16	0.16	0.03	0.07	0.07
Sat Flow, veh/h	1781	3554	1585	1781	3183	394	3456	1870	1585	1781	1606	224
Grp Volume(v), veh/h	104	1160	282	228	474	480	396	180	106	46	0	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1800	1728	1870	1585	1781	0	1830
Q Serve(g_s), s	8.1	29.7	9.3	16.0	19.7	19.7	15.8	12.5	7.3	3.6	0.0	6.8
Cycle Q Clear(g_c), s	8.1	29.7	9.3	16.0	19.7	19.7	15.8	12.5	7.3	3.6	0.0	6.8
Prop In Lane	1.00		1.00	1.00		0.22	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	115	1999	1097	204	1088	1102	447	302	437	59	0	119
V/C Ratio(X)	0.91	0.58	0.26	1.12	0.44	0.44	0.89	0.60	0.24	0.77	0.00	0.75
Avail Cap(c_a), veh/h	115	1999	1097	204	1088	1102	494	534	634	115	0	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.1	19.9	8.1	62.0	14.3	14.3	59.9	54.5	39.4	67.1	0.0	64.3
Incr Delay (d2), s/veh	56.3	1.2	0.6	95.8	1.1	1.1	16.3	1.9	0.3	19.0	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	11.9	3.2	12.5	7.8	7.9	7.9	6.0	2.9	1.9	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.4	21.1	8.6	157.8	15.5	15.5	76.2	56.4	39.7	86.1	0.0	73.6
LnGrp LOS	F	C	A	F	B	B	E	E	D	F	A	E
Approach Vol, veh/h		1546			1182			682			136	
Approach Delay, s/veh		25.6			42.9			65.3			77.8	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	83.8	22.1	14.1	13.0	90.8	8.7	27.6
Change Period (Y+Rc), s	4.0	* 5	4.0	5.0	4.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	16.0	* 57	20.0	29.0	9.0	* 64	9.0	40.0
Max Q Clear Time (g_c+I1), s	18.0	31.7	17.8	8.8	10.1	21.7	5.6	14.5
Green Ext Time (p_c), s	0.0	9.9	0.3	0.4	0.0	6.5	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	336	123	36	523	80	450	399	179	49	73	56
Future Volume (veh/h)	37	336	123	36	523	80	450	399	179	49	73	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	365	96	39	568	25	489	434	141	53	79	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	73	769	200	72	976	435	536	940	303	89	341	34
Arrive On Green	0.04	0.28	0.26	0.04	0.27	0.27	0.30	0.36	0.34	0.05	0.10	0.09
Sat Flow, veh/h	1781	2791	725	1781	3554	1585	1781	2643	851	1781	3263	326
Grp Volume(v), veh/h	40	231	230	39	568	25	489	290	285	53	43	44
Grp Sat Flow(s),veh/h/ln	1781	1777	1740	1781	1777	1585	1781	1777	1717	1781	1777	1812
Q Serve(g_s), s	1.3	6.2	6.4	1.2	7.9	0.7	15.2	7.2	7.4	1.7	1.3	1.3
Cycle Q Clear(g_c), s	1.3	6.2	6.4	1.2	7.9	0.7	15.2	7.2	7.4	1.7	1.3	1.3
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.50	1.00		0.18
Lane Grp Cap(c), veh/h	73	489	479	72	976	435	536	632	611	89	186	189
V/C Ratio(X)	0.55	0.47	0.48	0.54	0.58	0.06	0.91	0.46	0.47	0.60	0.23	0.23
Avail Cap(c_a), veh/h	186	929	909	186	1858	829	559	1269	1227	217	929	947
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	17.3	17.6	27.0	18.0	15.3	19.3	14.2	14.5	26.7	23.6	23.7
Incr Delay (d2), s/veh	2.4	0.7	0.7	2.4	0.8	0.1	18.4	0.7	0.8	2.4	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.3	2.3	0.5	2.9	0.2	8.0	2.5	2.5	0.7	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	18.0	18.3	29.4	18.8	15.4	37.7	15.0	15.3	29.1	24.2	24.3
LnGrp LOS	C	B	B	C	B	B	D	B	B	C	C	C
Approach Vol, veh/h		501			632			1064			140	
Approach Delay, s/veh		19.1			19.3			25.5			26.1	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	19.8	21.3	10.0	6.4	19.8	6.9	24.4
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.0	29.0	18.0	29.0	6.0	29.0	7.0	40.0
Max Q Clear Time (g_c+I1), s	3.3	8.4	17.2	3.3	3.3	9.9	3.7	9.4
Green Ext Time (p_c), s	0.0	2.5	0.1	0.4	0.0	4.8	0.0	5.2

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	146	617	290	118	446	91	80	123	48	167	426	174
Future Volume (veh/h)	146	617	290	118	446	91	80	123	48	167	426	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	159	671	269	128	485	86	87	134	14	182	463	148
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	889	356	348	1409	249	95	497	51	197	558	177
Arrive On Green	0.19	0.72	0.71	0.06	0.15	0.15	0.05	0.15	0.15	0.11	0.21	0.21
Sat Flow, veh/h	1781	2476	993	1781	3019	533	1781	3251	335	1781	2654	842
Grp Volume(v), veh/h	159	482	458	128	284	287	87	72	76	182	309	302
Grp Sat Flow(s),veh/h/ln	1781	1777	1692	1781	1777	1775	1781	1777	1810	1781	1777	1719
Q Serve(g_s), s	9.6	18.3	18.5	7.6	15.7	15.9	5.3	4.0	4.1	11.1	18.3	18.5
Cycle Q Clear(g_c), s	9.6	18.3	18.5	7.6	15.7	15.9	5.3	4.0	4.1	11.1	18.3	18.5
Prop In Lane	1.00		0.59	1.00		0.30	1.00		0.19	1.00		0.49
Lane Grp Cap(c), veh/h	173	638	607	348	829	828	95	272	277	197	374	362
V/C Ratio(X)	0.92	0.75	0.75	0.37	0.34	0.35	0.92	0.27	0.27	0.92	0.83	0.84
Avail Cap(c_a), veh/h	291	638	607	348	829	828	162	347	354	275	460	445
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.96	0.96	0.96	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	43.9	12.5	12.8	44.9	31.5	31.5	51.8	41.1	41.2	48.4	41.5	41.7
Incr Delay (d2), s/veh	11.0	6.0	6.3	0.2	1.1	1.1	20.3	0.5	0.5	21.9	8.7	9.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	5.1	5.0	3.5	7.7	7.8	2.9	1.8	1.8	6.0	8.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	18.5	19.1	45.2	32.6	32.6	72.1	41.7	41.8	70.3	50.2	51.4
LnGrp LOS	D	B	B	D	C	C	E	D	D	E	D	D
Approach Vol, veh/h		1099			699			235			793	
Approach Delay, s/veh		24.0			34.9			53.0			55.3	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.5	44.0	10.9	27.6	15.7	55.8	17.2	21.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	14.6	* 39	11.0	28.0	19.0	34.0	18.0	21.0
Max Q Clear Time (g_c+I1), s	9.6	20.5	7.3	20.5	11.6	17.9	13.1	6.1
Green Ext Time (p_c), s	0.1	8.5	0.0	2.1	0.1	4.2	0.1	0.6

Intersection Summary	
HCM 6th Ctrl Delay	37.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	687	81	213	543	148	86	463	118	103	807	229
Future Volume (veh/h)	254	687	81	213	543	148	86	463	118	103	807	229
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	276	747	80	232	590	107	93	503	44	112	877	160
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	656	1308	140	296	1034	738	117	675	451	295	1064	790
Arrive On Green	0.19	0.40	0.39	0.09	0.29	0.29	0.13	0.38	0.38	0.17	0.30	0.30
Sat Flow, veh/h	3456	3238	347	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	276	410	417	232	590	107	93	503	44	112	877	160
Grp Sat Flow(s),veh/h/ln	1728	1777	1808	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.7	19.6	19.7	7.2	15.5	0.0	5.6	13.5	1.1	6.2	25.3	1.1
Cycle Q Clear(g_c), s	7.7	19.6	19.7	7.2	15.5	0.0	5.6	13.5	1.1	6.2	25.3	1.1
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	656	718	731	296	1034	738	117	675	451	295	1064	790
V/C Ratio(X)	0.42	0.57	0.57	0.78	0.57	0.14	0.80	0.75	0.10	0.38	0.82	0.20
Avail Cap(c_a), veh/h	656	718	731	377	1034	738	194	1131	655	295	1163	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	25.4	25.5	49.3	33.2	16.8	47.1	31.8	9.8	40.8	35.8	6.7
Incr Delay (d2), s/veh	0.4	3.3	3.2	8.0	2.3	0.4	11.4	2.3	0.1	0.8	4.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.9	9.1	3.4	6.9	1.6	2.7	4.9	0.4	2.7	11.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	28.7	28.7	57.3	35.4	17.2	58.5	34.1	9.9	41.6	40.8	6.9
LnGrp LOS	D	C	C	E	D	B	E	C	A	D	D	A
Approach Vol, veh/h		1103			929			640			1149	
Approach Delay, s/veh		31.4			38.8			36.0			36.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	48.4	11.2	36.9	25.9	36.0	23.2	24.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	12.0	33.0	12.0	35.0	14.0	* 31	13.0	* 34
Max Q Clear Time (g_c+I1), s	9.2	21.7	7.6	27.3	9.7	17.5	8.2	15.5
Green Ext Time (p_c), s	0.2	6.4	0.1	4.7	0.4	5.9	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	446	144	68	429	185	49	227	71	343	651	155
Future Volume (veh/h)	107	446	144	68	429	185	49	227	71	343	651	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	485	91	74	466	117	53	247	18	373	708	146
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	1034	522	360	1607	1063	68	412	504	389	841	173
Arrive On Green	0.05	0.29	0.29	0.27	0.60	0.60	0.04	0.12	0.12	0.44	0.57	0.57
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	2934	605
Grp Volume(v), veh/h	116	485	91	74	466	117	53	247	18	373	429	425
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1762
Q Serve(g_s), s	3.6	12.3	0.3	3.5	7.0	2.2	3.2	7.3	0.3	22.3	21.9	21.9
Cycle Q Clear(g_c), s	3.6	12.3	0.3	3.5	7.0	2.2	3.2	7.3	0.3	22.3	21.9	21.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	173	1034	522	360	1607	1063	68	412	504	389	509	505
V/C Ratio(X)	0.67	0.47	0.17	0.21	0.29	0.11	0.78	0.60	0.04	0.96	0.84	0.84
Avail Cap(c_a), veh/h	251	1034	522	360	1607	1063	130	1001	767	389	759	753
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.86	0.86	0.86	0.91	0.91	0.91	1.00	1.00	1.00	0.88	0.88	0.88
Uniform Delay (d), s/veh	51.4	32.0	26.3	33.4	13.4	4.6	52.4	46.2	9.9	30.5	21.4	21.4
Incr Delay (d2), s/veh	1.5	1.3	0.6	0.1	0.4	0.2	6.9	2.0	0.0	32.7	6.1	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.3	1.7	1.5	2.6	0.6	1.5	3.2	0.1	10.3	6.4	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	33.3	26.9	33.5	13.8	4.8	59.3	48.2	9.9	63.2	27.5	27.6
LnGrp LOS	D	C	C	C	B	A	E	D	A	E	C	C
Approach Vol, veh/h		692			657			318			1227	
Approach Delay, s/veh		35.8			14.4			47.9			38.4	
Approach LOS		D			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	37.0	9.2	36.5	9.5	54.8	28.0	17.7
Change Period (Y+Rc), s	5.0	* 5	* 5	* 5	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	5.0	* 32	* 8	* 47	8.0	29.0	24.0	* 31
Max Q Clear Time (g_c+I1), s	5.5	14.3	5.2	23.9	5.6	9.0	24.3	9.3
Green Ext Time (p_c), s	0.0	4.2	0.0	7.6	0.0	4.4	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	677	247	30	231	36	64	113	9	112	249	50
Future Volume (veh/h)	64	677	247	30	231	36	64	113	9	112	249	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	736	247	33	251	32	70	123	3	122	271	36
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	1076	361	42	1222	154	90	246	6	635	1213	159
Arrive On Green	0.05	0.41	0.40	0.02	0.38	0.38	0.05	0.07	0.06	0.36	0.38	0.37
Sat Flow, veh/h	1781	2613	877	1781	3175	400	1781	3545	86	1781	3157	415
Grp Volume(v), veh/h	70	501	482	33	139	144	70	61	65	122	151	156
Grp Sat Flow(s),veh/h/ln	1781	1777	1713	1781	1777	1798	1781	1777	1855	1781	1777	1796
Q Serve(g_s), s	4.6	27.5	27.5	2.2	6.2	6.4	4.6	4.0	4.0	5.6	6.8	7.0
Cycle Q Clear(g_c), s	4.6	27.5	27.5	2.2	6.2	6.4	4.6	4.0	4.0	5.6	6.8	7.0
Prop In Lane	1.00		0.51	1.00		0.22	1.00		0.05	1.00		0.23
Lane Grp Cap(c), veh/h	90	732	705	42	684	692	90	124	129	635	683	690
V/C Ratio(X)	0.78	0.68	0.68	0.79	0.20	0.21	0.78	0.50	0.50	0.19	0.22	0.23
Avail Cap(c_a), veh/h	150	732	705	90	684	692	150	470	491	635	683	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	55.9	28.7	28.9	57.8	24.4	24.5	55.9	53.4	53.4	26.4	24.7	24.8
Incr Delay (d2), s/veh	5.5	5.1	5.3	11.7	0.7	0.7	5.5	13.6	13.2	0.1	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	12.1	11.8	1.1	2.7	2.8	2.2	2.2	2.3	2.3	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	33.8	34.2	69.5	25.1	25.2	61.3	67.0	66.6	26.5	25.4	25.5
LnGrp LOS	E	C	C	E	C	C	E	E	E	C	C	C
Approach Vol, veh/h		1053			316			196			429	
Approach Delay, s/veh		35.8			29.8			64.8			25.8	
Approach LOS		D			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	53.0	10.0	49.2	10.0	49.8	47.4	11.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	6.0	48.0	10.0	37.0	10.0	44.0	17.0	* 30
Max Q Clear Time (g_c+I1), s	4.2	29.5	6.6	9.0	6.6	8.4	7.6	6.0
Green Ext Time (p_c), s	0.0	7.9	0.0	2.4	0.0	2.3	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	35.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	875	67	158	595	39	99	314	85	66	580	228
Future Volume (veh/h)	312	875	67	158	595	39	99	314	85	66	580	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	339	951	0	172	647	0	108	341	24	72	630	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	408	2056		534	2288		134	850	379	92	766	515
Arrive On Green	0.04	0.13	0.00	0.15	0.45	0.00	0.08	0.24	0.24	0.05	0.22	0.21
Sat Flow, veh/h	3456	5274	0	3456	5274	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	339	951	0	172	647	0	108	341	24	72	630	155
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1728	1702	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	10.7	18.9	0.0	4.9	8.8	0.0	6.6	8.9	0.9	4.4	18.6	8.1
Cycle Q Clear(g_c), s	10.7	18.9	0.0	4.9	8.8	0.0	6.6	8.9	0.9	4.4	18.6	8.1
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	408	2056		534	2288		134	850	379	92	766	515
V/C Ratio(X)	0.83	0.46		0.32	0.28		0.80	0.40	0.06	0.78	0.82	0.30
Avail Cap(c_a), veh/h	534	2056		534	2288		211	969	432	162	872	562
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.00	0.96	0.96	0.00	0.96	0.96	0.96	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	36.7	0.0	41.4	19.2	0.0	50.1	35.2	14.3	51.5	41.1	27.8
Incr Delay (d2), s/veh	5.1	0.6	0.0	0.1	0.3	0.0	5.2	0.3	0.1	5.3	5.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	8.6	0.0	2.0	3.3	0.0	3.1	3.8	0.5	2.1	8.5	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	37.3	0.0	41.5	19.5	0.0	55.3	35.5	14.4	56.8	46.8	28.1
LnGrp LOS	E	D		D	B		E	D	B	E	D	C
Approach Vol, veh/h		1290	A		819	A		473			857	
Approach Delay, s/veh		42.4			24.1			38.9			44.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	48.0	12.3	27.7	17.0	53.0	9.7	30.3
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	10.0	* 43	13.0	26.0	17.0	36.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	16.9	20.9	8.6	20.6	12.7	10.8	6.4	10.9
Green Ext Time (p_c), s	0.1	8.6	0.0	2.1	0.3	5.9	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1456	342	176	947	0	0
Future Volume (veh/h)	1456	342	176	947	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1583	336	191	1029		
Peak Hour Factor	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	2125	436	233	3295		
Arrive On Green	1.00	1.00	0.26	1.00		
Sat Flow, veh/h	3030	603	1781	3647		
Grp Volume(v), veh/h	937	982	191	1029		
Grp Sat Flow(s),veh/h/ln	1777	1762	1781	1777		
Q Serve(g_s), s	0.0	0.0	5.5	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.5	0.0		
Prop In Lane		0.34	1.00			
Lane Grp Cap(c), veh/h	1286	1275	233	3295		
V/C Ratio(X)	0.73	0.77	0.82	0.31		
Avail Cap(c_a), veh/h	1286	1275	291	3295		
HCM Platoon Ratio	2.00	2.00	2.00	2.00		
Upstream Filter(I)	0.56	0.56	0.47	0.47		
Uniform Delay (d), s/veh	0.0	0.0	19.7	0.0		
Incr Delay (d2), s/veh	2.1	2.6	6.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.7	0.9	2.2	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	2.1	2.6	26.6	0.1		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1919			1220		
Approach Delay, s/veh	2.3			4.3		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.2	43.8				55.0
Change Period (Y+Rc), s	4.0	4.5				4.5
Max Green Setting (Gmax), s	9.3	37.5				50.5
Max Q Clear Time (g_c+I1), s	7.5	2.0				2.0
Green Ext Time (p_c), s	0.1	12.0				4.9

Intersection Summary	
HCM 6th Ctrl Delay	3.1
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	955	0	0	721	39	572	52	369	72	0	138
Future Volume (veh/h)	86	955	0	0	721	39	572	52	369	72	0	138
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	93	1038	0	0	784	42	622	57	401	78	0	150
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	364	1757	0	0	854	46	2077	350	297	714	0	0
Arrive On Green	0.41	0.99	0.00	0.00	0.50	0.49	0.60	0.19	0.19	0.36	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3524	184	3456	1870	1585	1781	78	
Grp Volume(v), veh/h	93	1038	0	0	406	420	622	57	401	78	23.5	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1837	1728	1870	1585	1781	C	
Q Serve(g_s), s	3.8	0.8	0.0	0.0	23.2	23.3	9.6	2.8	20.6	3.2		
Cycle Q Clear(g_c), s	3.8	0.8	0.0	0.0	23.2	23.3	9.6	2.8	20.6	3.2		
Prop In Lane	1.00		0.00	0.00		0.10	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	364	1757	0	0	443	458	2077	350	297	714		
V/C Ratio(X)	0.26	0.59	0.00	0.00	0.92	0.92	0.30	0.16	1.35	0.11		
Avail Cap(c_a), veh/h	364	1757	0	0	443	458	2077	350	297	714		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.96	0.96	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	27.0	0.3	0.0	0.0	26.6	26.6	10.7	37.5	44.7	23.2		
Incr Delay (d2), s/veh	1.6	1.4	0.0	0.0	25.6	25.1	0.4	0.1	178.6	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.5	0.0	0.0	9.4	9.6	3.6	1.3	22.7	1.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	1.7	0.0	0.0	52.2	51.7	11.1	37.6	223.3	23.5		
LnGrp LOS	C	A	A	A	D	D	B	D	F	C		
Approach Vol, veh/h		1131			826			1080				
Approach Delay, s/veh		3.9			51.9			91.2				
Approach LOS		A			D			F				

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	58.9	68.6		27.5	31.4	44.0	24.6
Change Period (Y+Rc), s	4.5	4.0		4.5	* 4.5	4.0	5.5
Max Green Setting (Gmax), s	36.9	6.0		6.0	* 27	40.0	19.1
Max Q Clear Time (g_c+I1), s	2.8	11.6		5.8	25.3	5.2	22.6
Green Ext Time (p_c), s	4.9	0.0		0.0	0.6	0.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1636	171	302	703	0	0	0	0	367	35	1163
Future Volume (veh/h)	0	1636	171	302	703	0	0	0	0	367	35	1163
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	1687	176	311	725	0				404	0	1199
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	1924	201	864	3087	0				1256	0	1118
Arrive On Green	0.00	0.65	0.63	0.25	0.60	0.00				0.48	0.00	0.48
Sat Flow, veh/h	0	6224	622	3456	5274	0				2607	0	2319
Grp Volume(v), veh/h	0	1365	498	311	725	0				404	0	1199
Grp Sat Flow(s),veh/h/ln	0	1609	1758	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	25.4	25.6	8.2	7.2	0.0				10.5	0.0	53.0
Cycle Q Clear(g_c), s	0.0	25.4	25.6	8.2	7.2	0.0				10.5	0.0	53.0
Prop In Lane	0.00		0.35	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1557	567	864	3087	0				1256	0	1118
V/C Ratio(X)	0.00	0.88	0.88	0.36	0.23	0.00				0.32	0.00	1.07
Avail Cap(c_a), veh/h	0	1557	567	864	3087	0				1256	0	1118
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.7	18.1	34.0	10.0	0.0				17.5	0.0	28.5
Incr Delay (d2), s/veh	0.0	5.5	13.4	0.3	0.2	0.0				0.1	0.0	48.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.6	7.5	3.3	2.4	0.0				3.0	0.0	21.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.2	31.5	34.3	10.2	0.0				17.6	0.0	77.2
LnGrp LOS	A	C	C	C	B	A				B	A	F
Approach Vol, veh/h		1863			1036						1603	
Approach Delay, s/veh		25.5			17.4						62.2	
Approach LOS		C			B						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.5	39.0		57.0		70.5
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	10.0	* 35		52.0		38.5
Max Q Clear Time (g_c+I1), s	10.2	27.6		55.0		9.2
Green Ext Time (p_c), s	0.0	4.4		0.0		3.1

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	931	1126	0	882	172	350
Future Volume (veh/h)	931	1126	0	882	172	350
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	960	0	0	909	177	361
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	3783		0	4767	660	303
Arrive On Green	0.74	0.00	0.00	0.74	0.19	0.19
Sat Flow, veh/h	5443	0	0	6958	3456	1585
Grp Volume(v), veh/h	960	0	0	909	177	361
Grp Sat Flow(s),veh/h/ln	1702	0	0	1609	1728	1585
Q Serve(g_s), s	6.6	0.0	0.0	4.7	4.8	21.0
Cycle Q Clear(g_c), s	6.6	0.0	0.0	4.7	4.8	21.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3783		0	4767	660	303
V/C Ratio(X)	0.25		0.00	0.19	0.27	1.19
Avail Cap(c_a), veh/h	3783		0	4767	660	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	4.5	0.0	0.0	4.3	37.9	44.5
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.0	0.1	114.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	2.0	17.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	4.7	0.0	0.0	4.3	38.0	159.2
LnGrp LOS	A		A	A	D	F
Approach Vol, veh/h	960	A		909	538	
Approach Delay, s/veh	4.7			4.3	119.3	
Approach LOS	A			A	F	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	85.0			85.0	25.0
Change Period (Y+Rc), s	4.5			4.5	5.0
Max Green Setting (Gmax), s	56.5			19.5	20.0
Max Q Clear Time (g_c+I1), s	8.6			6.7	23.0
Green Ext Time (p_c), s	4.5			3.3	0.0

Intersection Summary		
HCM 6th Ctrl Delay	30.2	
HCM 6th LOS	C	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	242	1070	110	338	611	103	189	189	164	511	261	105
Future Volume (veh/h)	242	1070	110	338	611	103	189	189	164	511	261	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	1163	44	367	664	94	205	205	0	555	284	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	2243	696	377	1317	184	270	250		534	393	333
Arrive On Green	0.25	0.44	0.44	0.11	0.29	0.29	0.03	0.04	0.00	0.26	0.35	0.35
Sat Flow, veh/h	1781	5106	1585	3456	4526	634	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	263	1163	44	367	498	260	205	205	0	555	284	25
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1756	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	14.3	18.2	1.8	11.6	13.4	13.6	6.5	12.0	0.0	17.0	14.5	0.7
Cycle Q Clear(g_c), s	14.3	18.2	1.8	11.6	13.4	13.6	6.5	12.0	0.0	17.0	14.5	0.7
Prop In Lane	1.00		1.00	1.00		0.36	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	442	2243	696	377	990	511	270	250		534	393	333
V/C Ratio(X)	0.59	0.52	0.06	0.97	0.50	0.51	0.76	0.82		1.04	0.72	0.08
Avail Cap(c_a), veh/h	442	2243	696	377	990	511	377	459		534	544	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.00	0.70	0.70	0.70
Uniform Delay (d), s/veh	36.5	22.4	17.8	48.8	32.4	32.5	52.6	51.3	0.0	40.8	32.9	9.3
Incr Delay (d2), s/veh	1.5	0.9	0.2	39.0	1.8	3.6	3.3	6.5	0.0	43.2	2.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	7.0	0.6	6.9	5.5	6.0	3.0	6.4	0.0	9.4	5.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	23.3	18.0	87.9	34.2	36.1	55.8	57.8	0.0	84.0	35.0	9.4
LnGrp LOS	D	C	B	F	C	D	E	E		F	C	A
Approach Vol, veh/h		1470			1125			410	A		864	
Approach Delay, s/veh		25.7			52.2			56.8			65.7	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	53.3	12.6	28.1	32.3	37.0	21.0	19.7
Change Period (Y+Rc), s	* 4	5.0	* 4	5.0	5.0	* 5	* 4	5.0
Max Green Setting (Gmax), s	* 12	36.0	* 12	32.0	16.0	* 32	* 17	27.0
Max Q Clear Time (g_c+I1), s	13.6	20.2	8.5	16.5	16.3	15.6	19.0	14.0
Green Ext Time (p_c), s	0.0	8.9	0.1	1.4	0.0	5.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1375	627	25	840	0	0	0	0	402	24	476
Future Volume (veh/h)	0	1375	627	25	840	0	0	0	0	402	24	476
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1495	295	27	913	0				437	26	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1538	686	127	2046	0				462	28	
Arrive On Green	0.00	0.43	0.43	0.07	0.58	0.00				0.27	0.27	0.00
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1686	100	2790
Grp Volume(v), veh/h	0	1495	295	27	913	0				463	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1786	0	1395
Q Serve(g_s), s	0.0	28.8	9.1	1.0	10.3	0.0				17.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	28.8	9.1	1.0	10.3	0.0				17.8	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.94		1.00
Lane Grp Cap(c), veh/h	0	1538	686	127	2046	0				490	0	
V/C Ratio(X)	0.00	0.97	0.43	0.21	0.45	0.00				0.95	0.00	
Avail Cap(c_a), veh/h	0	1538	686	127	2046	0				490	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.85	0.85	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.4	13.8	30.6	8.5	0.0				24.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	13.9	1.4	0.7	0.6	0.0				27.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.6	3.0	0.4	3.0	0.0				10.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	33.3	15.2	31.3	9.1	0.0				52.3	0.0	0.0
LnGrp LOS	A	C	B	C	A	A				D	A	
Approach Vol, veh/h		1790			940						463	A
Approach Delay, s/veh		30.3			9.7						52.3	
Approach LOS		C			A						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	35.3		24.7		45.3
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0
Max Green Setting (Gmax), s	5.0	30.3		19.2		40.3
Max Q Clear Time (g_c+I1), s	3.0	30.8		19.8		12.3
Green Ext Time (p_c), s	0.0	0.0		0.0		4.0

Intersection Summary	
HCM 6th Ctrl Delay	27.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	592	1214	0	0	505	253	374	3	59	0	0	0
Future Volume (veh/h)	592	1214	0	0	505	253	374	3	59	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	643	1320	0	0	549	91	451	0	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	913	1189	0	0	1066	476	763	401				
Arrive On Green	0.53	1.00	0.00	0.00	0.30	0.30	0.21	0.00	0.00			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	3563	1870	0			
Grp Volume(v), veh/h	643	1320	0	0	549	91	451	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1781	1870	0			
Q Serve(g_s), s	9.8	44.5	0.0	0.0	9.0	3.0	8.0	0.0	0.0			
Cycle Q Clear(g_c), s	9.8	44.5	0.0	0.0	9.0	3.0	8.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	913	1189	0	0	1066	476	763	401				
V/C Ratio(X)	0.70	1.11	0.00	0.00	0.51	0.19	0.59	0.00				
Avail Cap(c_a), veh/h	913	1189	0	0	1066	476	942	494				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.15	0.15	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	14.4	0.0	0.0	0.0	20.3	18.2	24.7	0.0	0.0			
Incr Delay (d2), s/veh	0.4	51.7	0.0	0.0	1.8	0.9	0.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	17.1	0.0	0.0	3.5	1.1	3.2	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.8	51.7	0.0	0.0	22.1	19.1	25.5	0.0	0.0			
LnGrp LOS	B	F	A	A	C	B	C	A				
Approach Vol, veh/h		1963			640			451	A			
Approach Delay, s/veh		39.6			21.6			25.5				
Approach LOS		D			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		49.5			23.5	26.0		20.5				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.5				
Max Green Setting (Gmax), s		41.0			15.0	21.0		18.5				
Max Q Clear Time (g_c+I1), s		46.5			11.8	11.0		10.0				
Green Ext Time (p_c), s		0.0			0.8	1.8		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	1203	55	47	351	62	68	154	100	325	296	154
Future Volume (veh/h)	89	1203	55	47	351	62	68	154	100	325	296	154
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	1308	57	51	382	54	74	167	51	353	322	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	1176	51	353	1499	210	95	381	113	257	433	367
Arrive On Green	0.07	0.34	0.32	0.20	0.48	0.46	0.05	0.14	0.12	0.05	0.08	0.08
Sat Flow, veh/h	1781	3469	151	1781	3129	439	1781	2703	800	1781	1870	1585
Grp Volume(v), veh/h	97	669	696	51	216	220	74	108	110	353	322	49
Grp Sat Flow(s),veh/h/ln	1781	1777	1843	1781	1777	1791	1781	1777	1726	1781	1870	1585
Q Serve(g_s), s	4.8	30.5	30.5	2.1	6.5	6.6	3.7	5.0	5.3	13.0	15.2	2.6
Cycle Q Clear(g_c), s	4.8	30.5	30.5	2.1	6.5	6.6	3.7	5.0	5.3	13.0	15.2	2.6
Prop In Lane	1.00		0.08	1.00		0.25	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	123	602	625	353	851	858	95	250	243	257	433	367
V/C Ratio(X)	0.79	1.11	1.11	0.14	0.25	0.26	0.78	0.43	0.45	1.37	0.74	0.13
Avail Cap(c_a), veh/h	139	602	625	353	851	858	178	563	547	257	675	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	41.2	29.8	29.8	29.8	13.9	14.1	42.1	35.4	35.8	42.9	38.9	33.1
Incr Delay (d2), s/veh	17.3	68.4	68.9	0.1	0.7	0.7	5.0	1.7	1.9	189.9	3.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	23.3	24.2	0.9	2.5	2.6	1.7	2.2	2.3	19.7	7.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	98.2	98.7	29.9	14.6	14.8	47.1	37.0	37.7	232.7	42.5	33.4
LnGrp LOS	E	F	F	C	B	B	D	D	D	F	D	C
Approach Vol, veh/h		1462			487			292			724	
Approach Delay, s/veh		95.8			16.3			39.8			134.6	
Approach LOS		F			B			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	34.0	8.8	24.4	10.2	46.6	17.0	16.2
Change Period (Y+Rc), s	* 5	* 5	4.0	* 5	4.0	* 5	4.0	* 5
Max Green Setting (Gmax), s	* 3	* 29	9.0	* 31	7.0	* 25	13.0	* 27
Max Q Clear Time (g_c+I1), s	4.1	32.5	5.7	17.2	6.8	8.6	15.0	7.3
Green Ext Time (p_c), s	0.0	0.0	0.0	2.2	0.0	2.9	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	86.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	476	871	33	408	0	0	0	0	130	33	175
Future Volume (veh/h)	0	476	871	33	408	0	0	0	0	130	33	175
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	517	685	36	443	0				141	36	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1249	1114	79	2773	0				188	48	190
Arrive On Green	0.00	0.70	0.69	0.09	1.00	0.00				0.13	0.13	0.12
Sat Flow, veh/h	0	1870	1585	1781	3647	0				1433	366	1585
Grp Volume(v), veh/h	0	517	685	36	443	0				177	0	27
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1799	0	1585
Q Serve(g_s), s	0.0	11.0	20.9	1.7	0.0	0.0				8.5	0.0	1.4
Cycle Q Clear(g_c), s	0.0	11.0	20.9	1.7	0.0	0.0				8.5	0.0	1.4
Prop In Lane	0.00		1.00	1.00		0.00				0.80		1.00
Lane Grp Cap(c), veh/h	0	1249	1114	79	2773	0				235	0	190
V/C Ratio(X)	0.00	0.41	0.61	0.46	0.16	0.00				0.75	0.00	0.14
Avail Cap(c_a), veh/h	0	1249	1114	119	2773	0				360	0	299
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.6	7.3	40.0	0.0	0.0				37.7	0.0	35.5
Incr Delay (d2), s/veh	0.0	1.0	2.5	4.1	0.1	0.0				1.8	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.3	6.1	0.8	0.0	0.0				3.7	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	9.9	44.1	0.1	0.0				39.5	0.0	35.6
LnGrp LOS	A	A	A	D	A	A				D	A	D
Approach Vol, veh/h		1202			479						204	
Approach Delay, s/veh		8.5			3.4						39.0	
Approach LOS		A			A						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	7.0	67.3		15.8		74.2
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	5.0	54.0		17.0		63.0
Max Q Clear Time (g_c+I1), s	13.7	22.9		10.5		2.0
Green Ext Time (p_c), s	0.0	6.0		0.3		2.0

Intersection Summary		
HCM 6th Ctrl Delay		10.5
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	427	0	0	187	70	281	6	59	0	0	0
Future Volume (veh/h)	211	427	0	0	187	70	281	6	59	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	229	464	0	0	203	41	305	7	55			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	916	1244	0	0	1051	208	358	8	65			
Arrive On Green	0.35	0.88	0.00	0.00	0.36	0.36	0.25	0.25	0.23			
Sat Flow, veh/h	3456	1870	0	0	3050	586	1455	33	262			
Grp Volume(v), veh/h	229	464	0	0	120	124	367	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1765	1750	0	0			
Q Serve(g_s), s	4.2	3.8	0.0	0.0	4.2	4.4	18.0	0.0	0.0			
Cycle Q Clear(g_c), s	4.2	3.8	0.0	0.0	4.2	4.4	18.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.33	0.83		0.15			
Lane Grp Cap(c), veh/h	916	1244	0	0	632	628	430	0	0			
V/C Ratio(X)	0.25	0.37	0.00	0.00	0.19	0.20	0.85	0.00	0.00			
Avail Cap(c_a), veh/h	916	1244	0	0	632	628	661	0	0			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.77	0.77	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	22.8	2.0	0.0	0.0	20.0	20.1	32.4	0.0	0.0			
Incr Delay (d2), s/veh	0.1	0.7	0.0	0.0	0.7	0.7	4.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.6	1.1	0.0	0.0	1.8	1.8	7.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	2.6	0.0	0.0	20.7	20.8	36.6	0.0	0.0			
LnGrp LOS	C	A	A	A	C	C	D	A	A			
Approach Vol, veh/h		693			244			367				
Approach Delay, s/veh		9.3			20.8			36.6				
Approach LOS		A			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		63.9			27.9	36.0		26.1				
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0				
Max Green Setting (Gmax), s		47.0			12.0	* 31		33.0				
Max Q Clear Time (g_c+I1), s		5.8			6.2	6.4		20.0				
Green Ext Time (p_c), s		1.8			0.4	0.8		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	269	312	281	527	140	284	203	146	310	581	65
Future Volume (veh/h)	27	269	312	281	527	140	284	203	146	310	581	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	292	94	305	573	105	309	221	20	337	632	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	35	520	440	317	1895	341	317	480	214	373	545	53
Arrive On Green	0.01	0.09	0.09	0.18	0.44	0.44	0.06	0.04	0.04	0.21	0.17	0.17
Sat Flow, veh/h	1781	1870	1585	1781	4350	784	1781	3554	1585	1781	3269	320
Grp Volume(v), veh/h	29	292	94	305	446	232	309	221	20	337	343	351
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1702	1729	1781	1777	1585	1781	1777	1813
Q Serve(g_s), s	1.5	13.5	4.9	15.3	7.7	7.9	15.6	5.5	1.1	16.6	15.0	15.0
Cycle Q Clear(g_c), s	1.5	13.5	4.9	15.3	7.7	7.9	15.6	5.5	1.1	16.6	15.0	15.0
Prop In Lane	1.00		1.00	1.00		0.45	1.00		1.00	1.00		0.18
Lane Grp Cap(c), veh/h	35	520	440	317	1483	753	317	480	214	373	296	302
V/C Ratio(X)	0.82	0.56	0.21	0.96	0.30	0.31	0.98	0.46	0.09	0.90	1.16	1.16
Avail Cap(c_a), veh/h	198	520	440	317	1483	753	317	480	214	416	296	302
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	35.6	31.8	36.7	16.5	16.6	42.2	39.8	37.7	34.7	37.5	37.5
Incr Delay (d2), s/veh	34.2	4.3	1.1	40.6	0.5	1.1	43.8	0.7	0.2	21.2	102.3	102.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	7.2	2.0	9.8	2.8	3.0	11.2	2.4	0.4	8.9	14.5	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.8	39.9	32.9	77.3	17.0	17.6	86.0	40.5	37.9	55.9	139.8	140.4
LnGrp LOS	E	D	C	E	B	B	F	D	D	E	F	F
Approach Vol, veh/h		415			983			550			1031	
Approach Delay, s/veh		41.1			35.9			66.0			112.6	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	30.0	20.0	20.0	5.8	44.2	22.9	17.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	26.0	25.0	16.0	15.0	10.0	31.0	21.0	10.0
Max Q Clear Time (g_c+I1), s	17.3	15.5	17.6	17.0	3.5	9.9	18.6	7.5
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	4.0	0.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	68.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	497	25	254	259	0	0	0	0	132	1	447
Future Volume (veh/h)	0	497	25	254	259	0	0	0	0	132	1	447
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	540	9	276	282	0				143	1	157
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1159	517	310	1935	0				570	4	899
Arrive On Green	0.00	0.33	0.33	0.17	0.54	0.00				0.32	0.32	0.32
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1770	12	2790
Grp Volume(v), veh/h	0	540	9	276	282	0				144	0	157
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1782	0	1395
Q Serve(g_s), s	0.0	10.9	0.3	13.6	3.5	0.0				5.4	0.0	3.6
Cycle Q Clear(g_c), s	0.0	10.9	0.3	13.6	3.5	0.0				5.4	0.0	3.6
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1159	517	310	1935	0				574	0	899
V/C Ratio(X)	0.00	0.47	0.02	0.89	0.15	0.00				0.25	0.00	0.17
Avail Cap(c_a), veh/h	0	1159	517	317	1935	0				574	0	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	24.1	20.6	36.3	10.1	0.0				22.5	0.0	21.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	24.3	0.2	0.0				1.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	0.1	7.8	1.3	0.0				2.4	0.0	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.4	20.6	60.7	10.3	0.0				23.5	0.0	22.3
LnGrp LOS	A	C	C	E	B	A				C	A	C
Approach Vol, veh/h		549			558						301	
Approach Delay, s/veh		24.3			35.2						22.9	
Approach LOS		C			D						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.7	35.3		35.0		55.0
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	16.3	29.0		29.0		49.0
Max Q Clear Time (g_c+I1), s	15.6	12.9		7.4		5.5
Green Ext Time (p_c), s	0.0	3.2		1.4		1.9

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	379	255	0	0	481	318	22	2	133	0	0	0
Future Volume (veh/h)	379	255	0	0	481	318	22	2	133	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	412	277	0	0	523	164	24	2	23			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	517	1330	0	0	1798	802	257	21	434			
Arrive On Green	0.15	0.71	0.00	0.00	0.17	0.17	0.16	0.16	0.16			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	1650	138	2790			
Grp Volume(v), veh/h	412	277	0	0	523	164	26	0	23			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1788	0	1395			
Q Serve(g_s), s	10.4	4.5	0.0	0.0	11.6	8.0	1.1	0.0	0.6			
Cycle Q Clear(g_c), s	10.4	4.5	0.0	0.0	11.6	8.0	1.1	0.0	0.6			
Prop In Lane	1.00		0.00	0.00		1.00	0.92		1.00			
Lane Grp Cap(c), veh/h	517	1330	0	0	1798	802	278	0	434			
V/C Ratio(X)	0.80	0.21	0.00	0.00	0.29	0.20	0.09	0.00	0.05			
Avail Cap(c_a), veh/h	883	1330	0	0	1798	802	278	0	434			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00			
Upstream Filter(I)	0.88	0.88	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	36.9	4.4	0.0	0.0	23.4	21.9	32.6	0.0	32.4			
Incr Delay (d2), s/veh	2.5	0.3	0.0	0.0	0.1	0.1	0.7	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.4	1.4	0.0	0.0	5.4	3.1	0.5	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	4.7	0.0	0.0	23.4	22.0	33.2	0.0	32.6			
LnGrp LOS	D	A	A	A	C	C	C	A	C			
Approach Vol, veh/h		689			687			49				
Approach Delay, s/veh		25.5			23.1			32.9				
Approach LOS		C			C			C				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		70.0			18.5	51.5		20.0				
Change Period (Y+Rc), s		6.0			5.0	6.0		6.0				
Max Green Setting (Gmax), s		64.0			23.0	36.0		14.0				
Max Q Clear Time (g_c+I1), s		6.5			12.4	13.6		3.1				
Green Ext Time (p_c), s		1.7			1.1	4.0		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	436	155	256	336	0	0	0	0	40	1	372
Future Volume (veh/h)	0	436	155	256	336	0	0	0	0	40	1	372
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	474	102	278	365	0				43	1	111
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1076	912	565	1076	0				247	6	224
Arrive On Green	0.00	0.58	0.58	0.58	0.58	0.00				0.14	0.14	0.14
Sat Flow, veh/h	0	1870	1585	837	1870	0				1743	41	1585
Grp Volume(v), veh/h	0	474	102	278	365	0				44	0	111
Grp Sat Flow(s),veh/h/ln	0	1870	1585	837	1870	0				1783	0	1585
Q Serve(g_s), s	0.0	5.1	1.0	10.0	3.6	0.0				0.8	0.0	2.3
Cycle Q Clear(g_c), s	0.0	5.1	1.0	15.1	3.6	0.0				0.8	0.0	2.3
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1076	912	565	1076	0				253	0	224
V/C Ratio(X)	0.00	0.44	0.11	0.49	0.34	0.00				0.17	0.00	0.49
Avail Cap(c_a), veh/h	0	1536	1302	771	1536	0				1465	0	1302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	4.3	3.4	8.6	4.0	0.0				13.3	0.0	14.0
Incr Delay (d2), s/veh	0.0	0.3	0.1	0.7	0.2	0.0				0.3	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.9	0.2	1.2	0.6	0.0				0.3	0.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	4.6	3.5	9.2	4.1	0.0				13.7	0.0	15.7
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		576			643						155	
Approach Delay, s/veh		4.4			6.3						15.1	
Approach LOS		A			A						B	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		25.3		10.0		25.3
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		29.0		29.0		29.0
Max Q Clear Time (g_c+I1), s		7.1		4.3		17.1
Green Ext Time (p_c), s		3.4		0.6		3.2

Intersection Summary		
HCM 6th Ctrl Delay		6.5
HCM 6th LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	307	181	0	0	510	84	73	4	98	0	0	0
Future Volume (veh/h)	307	181	0	0	510	84	73	4	98	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	334	197	0	0	554	39	79	4	107			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	577	1977	0	0	1977	882	128	6	174			
Arrive On Green	0.56	0.56	0.00	0.00	0.56	0.56	0.19	0.19	0.19			
Sat Flow, veh/h	824	3647	0	0	3647	1585	693	35	939			
Grp Volume(v), veh/h	334	197	0	0	554	39	190	0	0			
Grp Sat Flow(s),veh/h/ln	824	1777	0	0	1777	1585	1667	0	0			
Q Serve(g_s), s	13.9	1.0	0.0	0.0	3.2	0.4	4.1	0.0	0.0			
Cycle Q Clear(g_c), s	17.0	1.0	0.0	0.0	3.2	0.4	4.1	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	0.42		0.56			
Lane Grp Cap(c), veh/h	577	1977	0	0	1977	882	309	0	0			
V/C Ratio(X)	0.58	0.10	0.00	0.00	0.28	0.04	0.62	0.00	0.00			
Avail Cap(c_a), veh/h	736	2663	0	0	2663	1188	1249	0	0			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	9.0	4.0	0.0	0.0	4.5	3.9	14.5	0.0	0.0			
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.1	0.0	2.0	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.7	0.2	0.0	0.0	0.6	0.1	1.4	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.9	4.1	0.0	0.0	4.6	3.9	16.5	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	B	A	A			
Approach Vol, veh/h		531			593			190				
Approach Delay, s/veh		7.7			4.5			16.5				
Approach LOS		A			A			B				
Timer - Assigned Phs		2		4				8				
Phs Duration (G+Y+Rc), s		12.2		26.5				26.5				
Change Period (Y+Rc), s		5.0		5.0				5.0				
Max Green Setting (Gmax), s		29.0		29.0				29.0				
Max Q Clear Time (g_c+I1), s		6.1		19.0				5.2				
Green Ext Time (p_c), s		1.1		2.5				4.0				
Intersection Summary												
HCM 6th Ctrl Delay			7.6									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	252	145	15	139	0	0	0	0	74	3	520
Future Volume (veh/h)	0	252	145	15	139	0	0	0	0	74	3	520
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	274	44	16	151	0				54	0	404
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1160	360	543	807	0				514	0	915
Arrive On Green	0.00	0.23	0.23	0.23	0.23	0.00				0.29	0.00	0.29
Sat Flow, veh/h	0	5274	1585	1062	3647	0				1781	0	3170
Grp Volume(v), veh/h	0	274	44	16	151	0				54	0	404
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1062	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	0.9	0.5	0.3	0.7	0.0				0.5	0.0	2.1
Cycle Q Clear(g_c), s	0.0	0.9	0.5	1.2	0.7	0.0				0.5	0.0	2.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1160	360	543	807	0				514	0	915
V/C Ratio(X)	0.00	0.24	0.12	0.03	0.19	0.00				0.11	0.00	0.44
Avail Cap(c_a), veh/h	0	7172	2226	1793	4991	0				2502	0	4453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.5	6.3	7.0	6.4	0.0				5.4	0.0	6.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.1	0.0				0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.1	0.0	0.1	0.0				0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	6.5	7.0	6.6	0.0				5.5	0.0	6.3
LnGrp LOS	A	A	A	A	A	A				A	A	A
Approach Vol, veh/h		318			167						458	
Approach Delay, s/veh		6.6			6.6						6.2	
Approach LOS		A			A						A	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		9.7		11.0		9.7
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		29.0		29.0		29.0
Max Q Clear Time (g_c+I1), s		2.9		4.1		3.2
Green Ext Time (p_c), s		2.0		1.8		1.0

Intersection Summary	
HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	82	0	0	31	115	121	4	24	0	0	0
Future Volume (veh/h)	247	82	0	0	31	115	121	4	24	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	268	89	0	0	34	39	137	0	8			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	1345	888	0	0	888	396	891	0	396			
Arrive On Green	0.25	0.25	0.00	0.00	0.25	0.25	0.25	0.00	0.25			
Sat Flow, veh/h	2574	3647	0	0	3647	1585	3563	0	1585			
Grp Volume(v), veh/h	268	89	0	0	34	39	137	0	8			
Grp Sat Flow(s),veh/h/ln	1287	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	1.8	0.4	0.0	0.0	0.1	0.4	0.6	0.0	0.1			
Cycle Q Clear(g_c), s	1.9	0.4	0.0	0.0	0.1	0.4	0.6	0.0	0.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1345	888	0	0	888	396	891	0	396			
V/C Ratio(X)	0.20	0.10	0.00	0.00	0.04	0.10	0.15	0.00	0.02			
Avail Cap(c_a), veh/h	4435	5153	0	0	5153	2298	5166	0	2298			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	6.4	5.8	0.0	0.0	5.7	5.8	5.8	0.0	5.7			
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	5.8	0.0	0.0	5.7	5.9	5.9	0.0	5.7			
LnGrp LOS	A	A	A	A	A	A	A	A	A			
Approach Vol, veh/h		357			73			145				
Approach Delay, s/veh		6.3			5.8			5.9				
Approach LOS		A			A			A				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	10.0	10.0	10.0
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	29.0	29.0
Max Q Clear Time (g_c+I1), s	2.6	3.9	2.4
Green Ext Time (p_c), s	0.5	1.6	0.3

Intersection Summary	
HCM 6th Ctrl Delay	6.1
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	905	30	373	481	39	13	334	685	145	267	109
Future Volume (veh/h)	220	905	30	373	481	39	13	334	685	145	267	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	239	984	33	405	523	39	14	363	745	158	290	23
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	1574	702	326	1344	570	45	703	478	203	1019	454
Arrive On Green	0.16	0.44	0.44	0.09	0.38	0.36	0.03	0.20	0.20	0.11	0.29	0.29
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	239	984	33	405	523	39	14	363	745	158	290	23
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	13.8	22.6	1.3	10.0	11.4	1.7	0.8	9.7	21.0	9.1	6.7	1.1
Cycle Q Clear(g_c), s	13.8	22.6	1.3	10.0	11.4	1.7	0.8	9.7	21.0	9.1	6.7	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	1574	702	326	1344	570	45	703	478	203	1019	454
V/C Ratio(X)	0.84	0.63	0.05	1.24	0.39	0.07	0.31	0.52	1.56	0.78	0.28	0.05
Avail Cap(c_a), veh/h	302	1574	702	326	1344	570	168	703	478	269	1019	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	22.8	16.8	48.1	24.0	22.3	50.8	38.0	37.1	45.7	29.4	27.4
Incr Delay (d2), s/veh	17.1	1.9	0.1	132.9	0.9	0.2	1.4	0.7	261.4	7.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	9.2	0.5	10.2	4.7	0.6	0.4	4.1	46.4	4.3	2.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	24.7	16.9	180.9	24.9	22.6	52.2	38.7	298.5	52.7	29.5	27.4
LnGrp LOS	E	C	B	F	C	C	D	D	F	D	C	C
Approach Vol, veh/h		1256			967			1122			471	
Approach Delay, s/veh		31.3			90.2			211.4			37.2	
Approach LOS		C			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	51.0	6.7	34.4	20.9	44.1	16.1	25.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	45.0	9.0	25.0	17.0	37.0	15.0	19.0
Max Q Clear Time (g_c+I1), s	11.0	24.6	2.8	8.7	15.8	13.4	11.1	23.0
Green Ext Time (p_c), s	0.0	8.9	0.0	1.5	0.0	4.7	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	99.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	494	434	214	196	197	241	713	256	280	719	91
Future Volume (veh/h)	150	494	434	214	196	197	241	713	256	280	719	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	155	509	372	221	202	47	248	735	204	289	741	87
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	922	498	254	850	193	188	1349	828	97	1216	143
Arrive On Green	0.11	0.26	0.26	0.14	0.30	0.30	0.11	0.76	0.76	0.05	0.38	0.38
Sat Flow, veh/h	1781	3554	1585	1781	2875	654	3456	3554	1585	1781	3204	376
Grp Volume(v), veh/h	155	509	372	221	123	126	248	735	204	289	411	417
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1753	1728	1777	1585	1781	1777	1803
Q Serve(g_s), s	9.4	13.6	23.1	13.4	5.8	6.0	6.0	9.3	3.5	6.0	20.5	20.5
Cycle Q Clear(g_c), s	9.4	13.6	23.1	13.4	5.8	6.0	6.0	9.3	3.5	6.0	20.5	20.5
Prop In Lane	1.00		1.00	1.00		0.37	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	190	922	498	254	525	518	188	1349	828	97	675	684
V/C Ratio(X)	0.82	0.55	0.75	0.87	0.23	0.24	1.32	0.54	0.25	2.97	0.61	0.61
Avail Cap(c_a), veh/h	486	1173	610	372	525	518	188	1349	828	97	675	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.88	0.88	0.88	0.94	0.94	0.94
Uniform Delay (d), s/veh	48.1	35.2	33.8	46.2	29.3	29.4	49.0	9.3	5.2	52.0	27.5	27.5
Incr Delay (d2), s/veh	8.3	0.5	4.0	13.5	0.2	0.2	171.1	1.4	0.6	914.0	3.8	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	5.7	9.1	6.7	2.4	2.5	6.9	2.7	1.1	27.3	8.9	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	35.7	37.8	59.7	29.5	29.6	220.1	10.7	5.8	966.0	31.4	31.3
LnGrp LOS	E	D	D	E	C	C	F	B	A	F	C	C
Approach Vol, veh/h		1036			470			1187			1117	
Approach Delay, s/veh		39.6			43.7			53.6			273.2	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.8	19.7	33.5	10.0	46.8	15.7	37.5
Change Period (Y+Rc), s	4.0	* 5	4.0	* 5	4.0	* 5	4.0	* 5
Max Green Setting (Gmax), s	6.0	* 27	23.0	* 36	6.0	* 27	30.0	* 29
Max Q Clear Time (g_c+I1), s	8.0	11.3	15.4	25.1	8.0	22.5	11.4	8.0
Green Ext Time (p_c), s	0.0	5.0	0.4	3.4	0.0	1.8	0.3	1.2

Intersection Summary	
HCM 6th Ctrl Delay	112.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	749	574	0	1493	763	585
Future Volume (veh/h)	749	574	0	1493	763	585
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	788	604	0	1572	803	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	833	741	0	2347	1633	
Arrive On Green	0.47	0.47	0.00	0.46	0.92	0.00
Sat Flow, veh/h	1781	1585	0	5443	3647	1585
Grp Volume(v), veh/h	788	604	0	1572	803	0
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1777	1585
Q Serve(g_s), s	46.5	36.0	0.0	26.4	3.7	0.0
Cycle Q Clear(g_c), s	46.5	36.0	0.0	26.4	3.7	0.0
Prop In Lane	1.00	1.00	0.00			1.00
Lane Grp Cap(c), veh/h	833	741	0	2347	1633	
V/C Ratio(X)	0.95	0.81	0.00	0.67	0.49	
Avail Cap(c_a), veh/h	858	764	0	2347	1633	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.75	1.00	0.00
Uniform Delay (d), s/veh	27.9	25.2	0.0	23.2	2.6	0.0
Incr Delay (d2), s/veh	18.6	6.6	0.0	1.2	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.2	14.4	0.0	10.4	1.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.6	31.8	0.0	24.4	3.6	0.0
LnGrp LOS	D	C	A	C	A	
Approach Vol, veh/h	1392			1572	803	A
Approach Delay, s/veh	40.2			24.4	3.6	
Approach LOS	D			C	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	54.6		55.4		54.6
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	48.0		52.0		48.0
Max Q Clear Time (g_c+I1), s	28.4		48.5		5.7
Green Ext Time (p_c), s	8.1		2.0		4.0

Intersection Summary		
HCM 6th Ctrl Delay		25.8
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	791	130	137	465	193	83	192	51	285	406	117
Future Volume (veh/h)	227	791	130	137	465	193	83	192	51	285	406	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	247	860	141	149	505	178	90	209	55	310	441	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	310	1012	166	177	844	296	97	1034	266	188	1032	267
Arrive On Green	0.06	0.22	0.21	0.10	0.33	0.31	0.05	0.37	0.36	0.11	0.74	0.72
Sat Flow, veh/h	3456	3056	501	1781	2580	905	1781	2798	719	3456	2794	723
Grp Volume(v), veh/h	247	500	501	149	347	336	90	131	133	310	279	277
Grp Sat Flow(s),veh/h/ln	1728	1777	1780	1781	1777	1708	1781	1777	1741	1728	1777	1740
Q Serve(g_s), s	7.8	29.7	29.7	9.0	18.0	18.2	5.5	5.5	5.8	6.0	6.6	6.9
Cycle Q Clear(g_c), s	7.8	29.7	29.7	9.0	18.0	18.2	5.5	5.5	5.8	6.0	6.6	6.9
Prop In Lane	1.00		0.28	1.00		0.53	1.00		0.41	1.00		0.42
Lane Grp Cap(c), veh/h	310	588	589	177	582	559	97	657	643	188	657	643
V/C Ratio(X)	0.80	0.85	0.85	0.84	0.60	0.60	0.93	0.20	0.21	1.64	0.43	0.43
Avail Cap(c_a), veh/h	408	588	589	211	582	559	97	657	643	188	657	643
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	50.7	40.2	40.3	48.7	30.9	31.4	51.8	23.6	23.8	49.0	9.9	10.2
Incr Delay (d2), s/veh	5.3	13.1	13.1	19.5	4.5	4.7	66.8	0.7	0.7	311.6	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	15.3	15.4	4.9	8.0	7.9	4.2	2.4	2.5	10.6	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	53.3	53.4	68.1	35.4	36.1	118.6	24.3	24.6	360.6	11.8	12.2
LnGrp LOS	E	D	D	E	D	D	F	C	C	F	B	B
Approach Vol, veh/h		1248			832			354			866	
Approach Delay, s/veh		53.9			41.5			48.4			136.8	
Approach LOS		D			D			D			F	

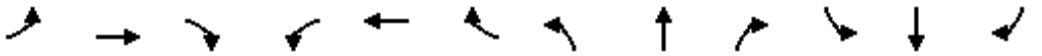
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	40.4	10.0	44.6	15.4	40.0	10.0	44.6
Change Period (Y+Rc), s	* 4	5.5	* 4	5.0	5.5	* 5.5	* 4	5.0
Max Green Setting (Gmax), s	* 13	34.5	* 6	38.0	13.0	* 35	* 6	38.0
Max Q Clear Time (g_c+I1), s	11.0	31.7	7.5	8.9	9.8	20.2	8.0	7.8
Green Ext Time (p_c), s	0.0	1.6	0.0	3.5	0.1	3.3	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Future Year (2040) General Plan Buildout AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	290	270	1470	220	0	0	0	0	160	0	240
Future Volume (veh/h)	0	290	270	1470	220	0	0	0	0	160	0	240
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1885	1885	1885	0				1885	1885	1885
Adj Flow Rate, veh/h	0	305	188	1547	232	0				168	0	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	1	1	1	1	0				1	1	1
Cap, veh/h	0	922	554	1691	1532	0				314	0	140
Arrive On Green	0.00	0.43	0.40	0.56	1.00	0.00				0.09	0.00	0.09
Sat Flow, veh/h	0	2245	1293	5063	1885	0				3591	0	1598
Grp Volume(v), veh/h	0	253	240	1547	232	0				168	0	89
Grp Sat Flow(s),veh/h/ln	0	1791	1653	1688	1885	0				1795	0	1598
Q Serve(g_s), s	0.0	7.5	8.0	22.1	0.0	0.0				3.6	0.0	4.3
Cycle Q Clear(g_c), s	0.0	7.5	8.0	22.1	0.0	0.0				3.6	0.0	4.3
Prop In Lane	0.00		0.78	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	767	708	1691	1532	0				314	0	140
V/C Ratio(X)	0.00	0.33	0.34	0.91	0.15	0.00				0.53	0.00	0.64
Avail Cap(c_a), veh/h	0	767	708	1709	1532	0				314	0	140
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.77	0.77	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.2	15.9	16.7	0.0	0.0				34.9	0.0	35.3
Incr Delay (d2), s/veh	0.0	1.1	1.3	6.4	0.2	0.0				0.9	0.0	7.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	2.9	5.8	0.1	0.0				1.6	0.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	16.4	17.2	23.1	0.2	0.0				35.9	0.0	42.4
LnGrp LOS	A	B	B	C	A	A				D	A	D
Approach Vol, veh/h		493			1779						257	
Approach Delay, s/veh		16.8			20.1						38.2	
Approach LOS		B			C						D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		69.0			30.7	38.3		11.0				
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0				
Max Green Setting (Gmax), s		63.0			25.0	32.0		5.0				
Max Q Clear Time (g_c+I1), s		2.0			24.1	10.0		6.3				
Green Ext Time (p_c), s		0.7			0.6	1.7		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

Notes

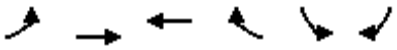
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	270	0	0	1580	110	110	0	300	0	0	0
Future Volume (veh/h)	180	270	0	0	1580	110	110	0	300	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	189	284	0	0	1663	96	116	0	20			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	241	2815	0	0	2997	173	192	0	301			
Arrive On Green	0.27	1.00	0.00	0.00	0.61	0.61	0.11	0.00	0.11			
Sat Flow, veh/h	1781	3647	0	0	5107	285	1781	0	2790			
Grp Volume(v), veh/h	189	284	0	0	1146	613	116	0	20			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1819	1781	0	1395			
Q Serve(g_s), s	7.9	0.0	0.0	0.0	16.0	16.0	5.0	0.0	0.5			
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.0	16.0	16.0	5.0	0.0	0.5			
Prop In Lane	1.00		0.00	0.00		0.16	1.00		1.00			
Lane Grp Cap(c), veh/h	241	2815	0	0	2066	1104	192	0	301			
V/C Ratio(X)	0.78	0.10	0.00	0.00	0.55	0.56	0.60	0.00	0.07			
Avail Cap(c_a), veh/h	289	2815	0	0	2066	1104	200	0	314			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.92	0.92	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.1	0.0	0.0	0.0	9.3	9.3	34.1	0.0	32.1			
Incr Delay (d2), s/veh	10.3	0.1	0.0	0.0	1.1	2.0	3.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	0.0	4.8	5.4	2.3	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	0.1	0.0	0.0	10.4	11.3	37.2	0.0	32.1			
LnGrp LOS	D	A	A	A	B	B	D	A	C			
Approach Vol, veh/h		473			1759			136				
Approach Delay, s/veh		15.4			10.7			36.5				
Approach LOS		B			B			D				

Timer - Assigned Phs	1	2		4		6			
Phs Duration (G+Y+Rc), s	14.8	52.6		12.6		67.4			
Change Period (Y+Rc), s	5.0	6.0		6.0		6.0			
Max Green Setting (Gmax), s	12.0	44.0		7.0		61.0			
Max Q Clear Time (g_c+I1), s	9.9	18.0		7.0		2.0			
Green Ext Time (p_c), s	0.1	8.7		0.0		1.1			

Intersection Summary	
HCM 6th Ctrl Delay	13.1
HCM 6th LOS	B



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	170	340	1460	30	20	810
Future Volume (veh/h)	170	340	1460	30	20	810
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	358	1537	31	21	853
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	244	2804	1879	38	634	781
Arrive On Green	0.14	0.55	0.36	0.35	0.36	0.36
Sat Flow, veh/h	1781	5274	5320	104	1781	1585
Grp Volume(v), veh/h	179	358	1016	552	21	853
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1852	1781	1585
Q Serve(g_s), s	8.1	2.9	22.8	22.8	0.6	30.0
Cycle Q Clear(g_c), s	8.1	2.9	22.8	22.8	0.6	30.0
Prop In Lane	1.00			0.06	1.00	1.00
Lane Grp Cap(c), veh/h	244	2804	1242	675	634	781
V/C Ratio(X)	0.73	0.13	0.82	0.82	0.03	1.09
Avail Cap(c_a), veh/h	634	4059	1333	725	634	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	9.2	24.2	24.3	17.7	21.4
Incr Delay (d2), s/veh	4.2	0.0	3.9	6.9	0.0	60.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.9	8.9	10.2	0.2	40.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.1	9.2	28.1	31.2	17.7	81.5
LnGrp LOS	D	A	C	C	B	F
Approach Vol, veh/h		537	1568		874	
Approach Delay, s/veh		19.2	29.2		80.0	
Approach LOS		B	C		E	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			50.3		34.0	15.5	34.7
Change Period (Y+Rc), s			5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s			66.0		29.0	29.0	32.0
Max Q Clear Time (g_c+I1), s			4.9		32.0	10.1	24.8
Green Ext Time (p_c), s			2.4		0.0	0.4	5.0

Intersection Summary		
HCM 6th Ctrl Delay		42.3
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	60	70	130	10	50	330	70	20	530	0
Future Volume (veh/h)	10	10	60	70	130	10	50	330	70	20	530	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	8	74	137	6	53	347	63	21	558	-2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	139	118	95	204	9	73	2021	363	40	2322	0
Arrive On Green	0.01	0.07	0.07	0.05	0.11	0.10	0.04	0.67	0.66	0.02	0.65	0.00
Sat Flow, veh/h	1781	1870	1585	1781	1778	78	1781	3009	541	1781	3647	0
Grp Volume(v), veh/h	11	11	8	74	0	143	53	203	207	21	556	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1856	1781	1777	1773	1781	1777	0
Q Serve(g_s), s	0.6	0.5	0.4	3.7	0.0	6.7	2.6	3.8	3.9	1.0	5.8	0.0
Cycle Q Clear(g_c), s	0.6	0.5	0.4	3.7	0.0	6.7	2.6	3.8	3.9	1.0	5.8	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.30	1.00		0.00
Lane Grp Cap(c), veh/h	24	139	118	95	0	213	73	1193	1191	40	2322	0
V/C Ratio(X)	0.46	0.08	0.07	0.78	0.00	0.67	0.73	0.17	0.17	0.52	0.24	0.00
Avail Cap(c_a), veh/h	99	623	528	158	0	681	119	1193	1191	99	2322	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	44.1	38.8	38.7	42.1	0.0	38.2	42.7	5.5	5.6	43.5	6.4	0.0
Incr Delay (d2), s/veh	5.1	0.2	0.2	5.0	0.0	3.7	5.1	0.3	0.3	3.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.2	1.7	0.0	3.2	1.2	1.3	1.3	0.5	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	39.0	39.0	47.1	0.0	41.9	47.8	5.8	5.9	47.2	6.6	0.0
LnGrp LOS	D	D	D	D	A	D	D	A	A	D	A	A
Approach Vol, veh/h		30			217			463			577	
Approach Delay, s/veh		42.7			43.7			10.6			8.1	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	64.4	8.8	10.7	7.7	62.8	5.2	14.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	30.0	8.0	29.0	6.0	29.0	5.0	32.0
Max Q Clear Time (g_c+I1), s	3.0	5.9	5.7	2.5	4.6	7.8	2.6	8.7
Green Ext Time (p_c), s	0.0	3.4	0.0	0.0	0.0	5.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	15.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	530	10	20	1360	510	10	30	20	50	10	80
Future Volume (veh/h)	320	530	10	20	1360	510	10	30	20	50	10	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	558	11	21	1432	537	11	32	21	53	11	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	2446	48	141	1700	599	72	70	42	214	143	288
Arrive On Green	0.11	0.69	0.67	0.08	0.66	0.65	0.08	0.08	0.06	0.08	0.08	0.08
Sat Flow, veh/h	3456	3564	70	1781	2576	908	215	912	550	1351	1870	1585
Grp Volume(v), veh/h	337	278	291	21	959	1010	64	0	0	53	11	84
Grp Sat Flow(s),veh/h/ln	1728	1777	1858	1781	1777	1707	1677	0	0	1351	1870	1585
Q Serve(g_s), s	7.3	4.4	4.4	0.8	30.2	37.5	1.3	0.0	0.0	0.0	0.4	0.0
Cycle Q Clear(g_c), s	7.3	4.4	4.4	0.8	30.2	37.5	2.7	0.0	0.0	2.1	0.4	0.0
Prop In Lane	1.00		0.04	1.00		0.53	0.17		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	365	1219	1275	141	1172	1126	184	0	0	214	143	288
V/C Ratio(X)	0.92	0.23	0.23	0.15	0.82	0.90	0.35	0.00	0.00	0.25	0.08	0.29
Avail Cap(c_a), veh/h	365	1219	1275	141	1172	1126	711	0	0	645	740	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	4.4	4.4	32.5	9.5	11.0	33.7	0.0	0.0	33.3	32.5	26.8
Incr Delay (d2), s/veh	29.0	0.4	0.4	0.5	6.4	11.2	1.1	0.0	0.0	0.6	0.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	1.1	1.2	0.4	9.6	12.7	1.2	0.0	0.0	0.9	0.2	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	4.9	4.8	33.0	15.9	22.2	34.9	0.0	0.0	33.9	32.8	27.3
LnGrp LOS	E	A	A	C	B	C	C	A	A	C	C	C
Approach Vol, veh/h		906			1990			64			148	
Approach Delay, s/veh		26.3			19.3			34.9			30.1	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	56.0		9.8	12.0	54.0		9.8
Change Period (Y+Rc), s	* 5	5.0		5.0	* 5	5.0		5.0
Max Green Setting (Gmax), s	* 5	51.0		29.0	* 7	49.0		29.0
Max Q Clear Time (g_c+I1), s	2.8	6.4		4.1	9.3	39.5		4.7
Green Ext Time (p_c), s	0.0	3.3		0.4	0.0	7.8		0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



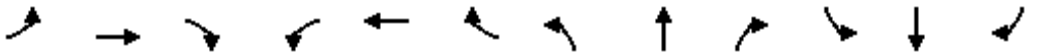
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	310	0	0	1130	70	0	0	0	30	0	380
Future Volume (veh/h)	320	310	0	0	1130	70	0	0	0	30	0	380
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	337	326	0	0	1189	49				32	0	334
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	712	2396	0	133	2396	1069				316	0	563
Arrive On Green	0.67	0.67	0.00	0.00	0.67	0.67				0.18	0.00	0.18
Sat Flow, veh/h	872	3647	0	1054	3554	1585				1781	0	3170
Grp Volume(v), veh/h	337	326	0	0	1189	49				32	0	334
Grp Sat Flow(s),veh/h/ln	436	1777	0	1054	1777	1585				1781	0	1585
Q Serve(g_s), s	16.6	1.8	0.0	0.0	8.8	0.6				0.8	0.0	5.2
Cycle Q Clear(g_c), s	25.5	1.8	0.0	0.0	8.8	0.6				0.8	0.0	5.2
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	712	2396	0	133	2396	1069				316	0	563
V/C Ratio(X)	0.47	0.14	0.00	0.00	0.50	0.05				0.10	0.00	0.59
Avail Cap(c_a), veh/h	964	3423	0	438	3423	1527				990	0	1762
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	10.5	3.2	0.0	0.0	4.3	3.0				18.6	0.0	20.4
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.2	0.0				0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.2	0.0	0.0	1.2	0.1				0.3	0.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	3.2	0.0	0.0	4.5	3.0				18.7	0.0	21.4
LnGrp LOS	B	A	A	A	A	A				B	A	C
Approach Vol, veh/h		663			1238						366	
Approach Delay, s/veh		7.2			4.4						21.2	
Approach LOS		A			A						C	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	40.4	40.4	13.6
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	51.0	51.0	29.0
Max Q Clear Time (g_c+I1), s	10.8	27.5	7.2
Green Ext Time (p_c), s	10.4	7.9	1.4

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1280	610	130	1340	90	260	170	230	40	160	30
Future Volume (veh/h)	40	1280	610	130	1340	90	260	170	230	40	160	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1347	555	137	1411	91	274	179	197	42	168	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	2035	1069	160	1719	111	327	360	437	54	207	28
Arrive On Green	0.15	0.57	0.57	0.09	0.51	0.50	0.09	0.19	0.19	0.03	0.13	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3390	218	3456	1870	1585	1781	1610	220
Grp Volume(v), veh/h	42	1347	555	137	737	765	274	179	197	42	0	191
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1831	1728	1870	1585	1781	0	1831
Q Serve(g_s), s	2.9	36.5	24.6	10.6	48.9	49.5	10.9	12.0	14.4	3.3	0.0	14.2
Cycle Q Clear(g_c), s	2.9	36.5	24.6	10.6	48.9	49.5	10.9	12.0	14.4	3.3	0.0	14.2
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	264	2035	1069	160	901	929	327	360	437	54	0	235
V/C Ratio(X)	0.16	0.66	0.52	0.85	0.82	0.82	0.84	0.50	0.45	0.78	0.00	0.81
Avail Cap(c_a), veh/h	264	2035	1069	178	901	929	420	521	573	102	0	392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.0	20.6	11.4	62.8	29.1	29.3	62.3	50.4	42.0	67.4	0.0	59.4
Incr Delay (d2), s/veh	0.3	1.7	1.8	27.6	7.6	7.7	11.1	1.1	0.7	20.6	0.0	6.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	14.7	8.7	6.0	21.6	22.5	5.3	5.7	5.7	1.8	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.3	22.3	13.2	90.4	36.7	36.9	73.4	51.5	42.7	88.0	0.0	66.1
LnGrp LOS	D	C	B	F	D	D	E	D	D	F	A	E
Approach Vol, veh/h		1944			1639			650			233	
Approach Delay, s/veh		20.4			41.3			58.1			70.0	
Approach LOS		C			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	84.2	17.3	22.0	25.8	75.0	8.3	31.0
Change Period (Y+Rc), s	4.0	* 5	4.0	5.0	* 5	* 5	4.0	5.0
Max Green Setting (Gmax), s	14.0	* 62	17.0	29.0	* 6	* 70	8.0	38.0
Max Q Clear Time (g_c+I1), s	12.6	38.5	12.9	16.2	4.9	51.5	5.3	16.4
Green Ext Time (p_c), s	0.0	12.7	0.4	0.8	0.0	9.6	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	590	370	140	180	50	100	280	50	140	850	150
Future Volume (veh/h)	80	590	370	140	180	50	100	280	50	140	850	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	621	301	147	189	18	105	295	33	147	895	143
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	724	351	179	1252	558	133	1001	111	179	1033	165
Arrive On Green	0.06	0.31	0.30	0.10	0.35	0.35	0.07	0.31	0.30	0.10	0.34	0.33
Sat Flow, veh/h	1781	2320	1124	1781	3554	1585	1781	3225	358	1781	3069	490
Grp Volume(v), veh/h	84	476	446	147	189	18	105	161	167	147	518	520
Grp Sat Flow(s),veh/h/ln	1781	1777	1668	1781	1777	1585	1781	1777	1806	1781	1777	1782
Q Serve(g_s), s	4.2	22.9	22.9	7.4	3.3	0.7	5.3	6.3	6.4	7.4	24.8	24.9
Cycle Q Clear(g_c), s	4.2	22.9	22.9	7.4	3.3	0.7	5.3	6.3	6.4	7.4	24.8	24.9
Prop In Lane	1.00		0.67	1.00		1.00	1.00		0.20	1.00		0.28
Lane Grp Cap(c), veh/h	108	555	521	179	1252	558	133	552	561	179	598	600
V/C Ratio(X)	0.78	0.86	0.86	0.82	0.15	0.03	0.79	0.29	0.30	0.82	0.87	0.87
Avail Cap(c_a), veh/h	196	606	569	216	1252	558	176	606	616	216	645	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	29.4	29.7	40.1	20.1	19.3	41.4	23.8	23.9	40.1	28.2	28.4
Incr Delay (d2), s/veh	4.5	11.0	11.7	15.8	0.1	0.0	11.7	0.4	0.4	15.8	11.3	11.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.8	10.3	3.9	1.3	0.2	2.7	2.6	2.7	3.9	11.7	11.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	40.4	41.4	55.9	20.2	19.3	53.1	24.2	24.3	55.9	39.6	39.7
LnGrp LOS	D	D	D	E	C	B	D	C	C	E	D	D
Approach Vol, veh/h		1006			354			433			1185	
Approach Delay, s/veh		41.3			35.0			31.2			41.7	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	32.4	10.8	34.6	9.5	36.0	13.2	32.2
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	11.0	30.0	9.0	32.0	10.0	31.0	11.0	30.0
Max Q Clear Time (g_c+I1), s	9.4	24.9	7.3	26.9	6.2	5.3	9.4	8.4
Green Ext Time (p_c), s	0.0	2.5	0.0	2.8	0.0	1.6	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	280	340	190	40	700	150	570	340	30	60	130	180
Future Volume (veh/h)	280	340	190	40	700	150	570	340	30	60	130	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	358	123	42	737	146	600	358	25	63	137	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	266	1070	362	133	1030	204	728	443	31	84	275	14
Arrive On Green	0.15	0.41	0.40	0.07	0.35	0.34	0.21	0.26	0.24	0.05	0.08	0.07
Sat Flow, veh/h	1781	2606	882	1781	2956	585	3456	1728	121	1781	3441	175
Grp Volume(v), veh/h	295	242	239	42	443	440	600	0	383	63	70	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1777	1765	1728	0	1849	1781	1777	1839
Q Serve(g_s), s	12.0	7.5	7.7	1.8	17.4	17.4	13.3	0.0	15.6	2.8	3.0	3.1
Cycle Q Clear(g_c), s	12.0	7.5	7.7	1.8	17.4	17.4	13.3	0.0	15.6	2.8	3.0	3.1
Prop In Lane	1.00		0.52	1.00		0.33	1.00		0.07	1.00		0.10
Lane Grp Cap(c), veh/h	266	730	703	133	619	615	728	0	474	84	142	147
V/C Ratio(X)	1.11	0.33	0.34	0.32	0.72	0.72	0.82	0.00	0.81	0.75	0.49	0.50
Avail Cap(c_a), veh/h	266	730	703	155	619	615	903	0	782	222	509	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.2	16.2	16.4	35.2	22.7	22.9	30.3	0.0	28.1	37.8	35.4	35.5
Incr Delay (d2), s/veh	87.6	1.2	1.3	0.5	6.9	7.0	4.2	0.0	3.3	5.0	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	3.2	3.2	0.8	7.9	7.9	5.7	0.0	7.0	1.3	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.8	17.4	17.7	35.7	29.7	29.9	34.5	0.0	31.4	42.9	38.1	38.1
LnGrp LOS	F	B	B	D	C	C	C	A	C	D	D	D
Approach Vol, veh/h		776			925			983			207	
Approach Delay, s/veh		57.2			30.0			33.3			39.5	
Approach LOS		E			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	37.0	21.9	10.4	16.0	32.0	7.8	24.6
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	* 32	21.0	* 22	12.0	27.0	10.0	33.0
Max Q Clear Time (g_c+I1), s	13.8	9.7	15.3	5.1	14.0	19.4	4.8	17.6
Green Ext Time (p_c), s	0.0	4.3	0.7	0.6	0.0	4.1	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	310	40	80	700	550	90	820	90	40	280	140
Future Volume (veh/h)	300	310	40	80	700	550	90	820	90	40	280	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	316	326	27	84	737	501	95	863	44	42	295	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	1284	106	172	1328	619	67	1147	571	52	1163	598
Arrive On Green	0.06	0.39	0.37	0.05	0.37	0.36	0.04	0.32	0.31	0.03	0.33	0.31
Sat Flow, veh/h	3456	3324	274	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	316	173	180	84	737	501	95	863	44	42	295	104
Grp Sat Flow(s),veh/h/ln	1728	1777	1821	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.0	5.3	5.4	1.9	13.2	20.2	3.0	17.4	0.0	1.9	4.9	0.5
Cycle Q Clear(g_c), s	5.0	5.3	5.4	1.9	13.2	20.2	3.0	17.4	0.0	1.9	4.9	0.5
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	215	686	703	172	1328	619	67	1147	571	52	1163	598
V/C Ratio(X)	1.47	0.25	0.26	0.49	0.55	0.81	1.43	0.75	0.08	0.80	0.25	0.17
Avail Cap(c_a), veh/h	215	686	703	172	1328	619	67	1372	671	67	1372	691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	16.8	16.8	37.1	19.9	21.8	38.6	24.3	16.9	38.7	19.8	8.0
Incr Delay (d2), s/veh	234.2	0.9	0.9	2.1	1.7	10.9	259.1	2.3	0.1	40.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	2.3	2.4	0.8	5.4	8.5	6.1	7.2	0.5	1.4	1.9	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.8	17.6	17.7	39.3	21.5	32.7	297.8	26.6	17.0	79.1	20.0	8.2
LnGrp LOS	F	B	B	D	C	C	F	C	B	E	B	A
Approach Vol, veh/h		669			1322			1002			441	
Approach Delay, s/veh		137.7			26.9			51.9			22.8	
Approach LOS		F			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	35.0	7.0	30.3	9.0	34.0	7.4	29.9
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	4.0	30.0	3.0	30.0	5.0	29.0	3.0	* 30
Max Q Clear Time (g_c+I1), s	3.9	7.4	5.0	6.9	7.0	22.2	3.9	19.4
Green Ext Time (p_c), s	0.0	3.9	0.0	3.1	0.0	5.1	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	55.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	420	110	70	500	580	180	660	90	200	260	220
Future Volume (veh/h)	290	420	110	70	500	580	180	660	90	200	260	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	305	442	56	74	526	571	189	695	28	211	274	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1296	736	98	1139	710	197	940	489	247	658	347
Arrive On Green	0.10	0.36	0.35	0.06	0.32	0.31	0.11	0.26	0.25	0.14	0.29	0.28
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	2247	1187
Grp Volume(v), veh/h	305	442	56	74	526	571	189	695	28	211	215	208
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1657
Q Serve(g_s), s	7.9	8.2	1.1	3.7	10.7	15.7	9.6	16.2	0.3	10.5	8.8	9.3
Cycle Q Clear(g_c), s	7.9	8.2	1.1	3.7	10.7	15.7	9.6	16.2	0.3	10.5	8.8	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.72
Lane Grp Cap(c), veh/h	344	1296	736	98	1139	710	197	940	489	247	520	485
V/C Ratio(X)	0.89	0.34	0.08	0.75	0.46	0.80	0.96	0.74	0.06	0.85	0.41	0.43
Avail Cap(c_a), veh/h	344	1296	736	98	1139	710	197	1257	631	276	707	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	20.9	5.8	42.1	24.5	8.2	40.0	30.4	9.2	38.1	25.7	26.2
Incr Delay (d2), s/veh	22.6	0.7	0.2	24.7	1.3	9.4	52.2	2.0	0.1	21.7	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	3.3	0.5	2.2	4.4	5.6	6.8	6.7	0.2	5.9	3.6	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	21.6	6.0	66.8	25.9	17.6	92.2	32.4	9.3	59.8	26.5	27.1
LnGrp LOS	E	C	A	E	C	B	F	C	A	E	C	C
Approach Vol, veh/h		803			1171			912			634	
Approach Delay, s/veh		36.2			24.4			44.1			37.8	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	37.0	14.0	30.5	13.0	33.0	16.5	27.9
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	5.0	32.0	10.0	* 35	9.0	28.0	14.0	* 31
Max Q Clear Time (g_c+I1), s	5.7	10.2	11.6	11.3	9.9	17.7	12.5	18.2
Green Ext Time (p_c), s	0.0	3.9	0.0	3.4	0.0	5.3	0.1	4.8

Intersection Summary	
HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	390	110	30	1020	80	300	290	50	80	150	90
Future Volume (veh/h)	110	390	110	30	1020	80	300	290	50	80	150	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	411	92	32	1074	73	316	305	38	84	158	15
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	999	222	81	1105	75	641	1255	155	107	280	26
Arrive On Green	0.07	0.35	0.34	0.05	0.33	0.32	0.36	0.39	0.39	0.02	0.03	0.03
Sat Flow, veh/h	1781	2890	641	1781	3376	229	1781	3183	393	1781	3283	308
Grp Volume(v), veh/h	116	251	252	32	565	582	316	169	174	84	85	88
Grp Sat Flow(s),veh/h/ln	1781	1777	1755	1781	1777	1829	1781	1777	1800	1781	1777	1815
Q Serve(g_s), s	7.1	11.9	12.1	1.9	34.5	34.5	15.2	7.0	7.2	5.2	5.2	5.3
Cycle Q Clear(g_c), s	7.1	11.9	12.1	1.9	34.5	34.5	15.2	7.0	7.2	5.2	5.2	5.3
Prop In Lane	1.00		0.37	1.00		0.13	1.00		0.22	1.00		0.17
Lane Grp Cap(c), veh/h	130	614	606	81	582	599	641	700	709	107	152	155
V/C Ratio(X)	0.90	0.41	0.42	0.40	0.97	0.97	0.49	0.24	0.25	0.78	0.56	0.57
Avail Cap(c_a), veh/h	130	614	606	97	582	599	641	700	709	178	485	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	50.6	27.4	27.7	51.0	36.5	36.6	27.4	22.3	22.4	53.2	51.4	51.5
Incr Delay (d2), s/veh	47.7	2.0	2.1	1.2	30.9	30.6	0.2	0.8	0.8	4.4	13.5	13.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	5.2	5.2	0.9	19.1	19.6	6.2	2.9	3.1	2.4	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.3	29.5	29.8	52.2	67.4	67.1	27.6	23.1	23.2	57.6	64.9	65.3
LnGrp LOS	F	C	C	D	E	E	C	C	C	E	E	E
Approach Vol, veh/h		619			1179			659			257	
Approach Delay, s/veh		42.5			66.9			25.3			62.6	
Approach LOS		D			E			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	42.0	44.6	13.4	12.0	40.0	10.6	47.4
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.0	* 37	20.0	* 29	8.0	35.0	11.0	38.0
Max Q Clear Time (g_c+I1), s	13.9	14.1	17.2	7.3	9.1	36.5	7.2	9.2
Green Ext Time (p_c), s	0.0	3.9	0.1	1.1	0.0	0.0	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	50.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	730	40	120	1380	40	70	420	90	30	430	260
Future Volume (veh/h)	260	730	40	120	1380	40	70	420	90	30	430	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	274	768	0	126	1453	0	74	442	26	32	453	168
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	2042		567	2540		95	769	343	54	649	395
Arrive On Green	0.08	0.40	0.00	0.16	0.50	0.00	0.05	0.22	0.22	0.03	0.18	0.17
Sat Flow, veh/h	3456	5274	0	3456	5274	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	274	768	0	126	1453	0	74	442	26	32	453	168
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1728	1702	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.0	9.6	0.0	2.8	18.0	0.0	3.7	10.0	0.7	1.6	10.7	5.8
Cycle Q Clear(g_c), s	7.0	9.6	0.0	2.8	18.0	0.0	3.7	10.0	0.7	1.6	10.7	5.8
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	2042		567	2540		95	769	343	54	649	395
V/C Ratio(X)	1.02	0.38		0.22	0.57		0.78	0.57	0.08	0.59	0.70	0.43
Avail Cap(c_a), veh/h	269	2042		567	2540		99	1027	458	99	1027	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.00	0.96	0.96	0.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	19.1	0.0	32.6	15.9	0.0	42.1	31.6	11.3	43.1	34.5	15.4
Incr Delay (d2), s/veh	53.5	0.4	0.0	0.1	0.9	0.0	27.3	0.7	0.1	3.7	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.5	0.0	1.1	6.3	0.0	2.3	4.2	0.4	0.7	4.6	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.0	19.5	0.0	32.7	16.8	0.0	69.4	32.2	11.4	46.8	35.8	16.1
LnGrp LOS	F	B		C	B		E	C	B	D	D	B
Approach Vol, veh/h		1042	A		1579	A		542			653	
Approach Delay, s/veh		39.3			18.1			36.3			31.3	
Approach LOS		D			B			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	40.0	9.8	20.4	11.0	48.8	6.8	23.5
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	7.0	* 35	5.0	* 25	7.0	35.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	4.8	11.6	5.7	12.7	9.0	20.0	3.6	12.0
Green Ext Time (p_c), s	0.0	7.0	0.0	2.7	0.0	10.2	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1030	490	150	1300	0	0
Future Volume (veh/h)	1030	490	150	1300	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1084	448	158	1368		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1695	684	203	3198		
Arrive On Green	0.69	0.67	0.11	0.90		
Sat Flow, veh/h	2564	998	1781	3647		
Grp Volume(v), veh/h	773	759	158	1368		
Grp Sat Flow(s),veh/h/ln	1777	1691	1781	1777		
Q Serve(g_s), s	9.7	10.4	3.4	2.5		
Cycle Q Clear(g_c), s	9.7	10.4	3.4	2.5		
Prop In Lane		0.59	1.00			
Lane Grp Cap(c), veh/h	1219	1160	203	3198		
V/C Ratio(X)	0.63	0.65	0.78	0.43		
Avail Cap(c_a), veh/h	1219	1160	312	3198		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	3.5	3.7	17.2	0.3		
Incr Delay (d2), s/veh	2.5	2.9	6.6	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	0.9	1.5	0.2		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.0	6.6	23.9	0.7		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	1532			1526		
Approach Delay, s/veh	6.3			3.1		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	8.6	31.4				40.0
Change Period (Y+Rc), s	4.0	4.5				4.5
Max Green Setting (Gmax), s	7.6	24.5				35.5
Max Q Clear Time (g_c+I1), s	5.4	12.4				4.5
Green Ext Time (p_c), s	0.1	5.4				7.2

Intersection Summary	
HCM 6th Ctrl Delay	4.7
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	280	0	0	940	50	700	80	130	30	0	170
Future Volume (veh/h)	80	280	0	0	940	50	700	80	130	30	0	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	84	295	0	0	989	53	737	84	137	32	0	179
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	251	1776	0	0	1091	58	1477	221	188	552	0	0
Arrive On Green	0.28	1.00	0.00	0.00	0.42	0.42	0.43	0.12	0.12	0.27	0.00	0.00
Sat Flow, veh/h	1781	3647	0	0	3524	184	3456	1870	1585	1781	32	
Grp Volume(v), veh/h	84	295	0	0	512	530	737	84	137	32	29.7	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1837	1728	1870	1585	1781	C	
Q Serve(g_s), s	4.1	0.0	0.0	0.0	29.7	29.7	17.1	4.6	9.2	1.5		
Cycle Q Clear(g_c), s	4.1	0.0	0.0	0.0	29.7	29.7	17.1	4.6	9.2	1.5		
Prop In Lane	1.00		0.00	0.00		0.10	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	251	1776	0	0	565	585	1477	221	188	552		
V/C Ratio(X)	0.34	0.17	0.00	0.00	0.91	0.91	0.50	0.38	0.73	0.06		
Avail Cap(c_a), veh/h	251	1776	0	0	565	585	1477	391	331	552		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.33	1.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.96	0.96	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	35.4	0.0	0.0	0.0	30.2	30.2	22.9	44.8	46.8	29.5		
Incr Delay (d2), s/veh	3.4	0.2	0.0	0.0	20.0	19.5	1.2	0.4	2.0	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	0.0	13.9	14.2	7.1	2.1	3.7	0.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	0.2	0.0	0.0	50.2	49.7	24.1	45.2	48.8	29.7		
LnGrp LOS	D	A	A	A	D	D	C	D	D	C		
Approach Vol, veh/h		379			1042			958				
Approach Delay, s/veh		8.8			50.0			29.5				
Approach LOS		A			D			C				

Timer - Assigned Phs	2	3		5	6	7	8
Phs Duration (G+Y+Rc), s	59.0	51.0		20.0	39.0	34.0	17.0
Change Period (Y+Rc), s	4.5	4.0		4.5	* 4.5	4.0	5.5
Max Green Setting (Gmax), s	44.5	23.0		6.0	* 35	30.0	21.5
Max Q Clear Time (g_c+I1), s	2.0	19.1		6.1	31.7	3.5	11.2
Green Ext Time (p_c), s	1.1	0.8		0.0	1.2	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2200	220	440	970	0	0	0	0	470	10	1060
Future Volume (veh/h)	0	2200	220	440	970	0	0	0	0	470	10	1060
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	2316	232	463	1021	0				503	0	1116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	2263	226	979	3631	0				1014	0	902
Arrive On Green	0.00	0.38	0.37	0.28	0.71	0.00				0.39	0.00	0.39
Sat Flow, veh/h	0	6253	597	3456	5274	0				2607	0	2319
Grp Volume(v), veh/h	0	1863	685	463	1021	0				503	0	1116
Grp Sat Flow(s),veh/h/ln	0	1609	1763	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	34.0	34.0	10.0	6.5	0.0				13.2	0.0	35.0
Cycle Q Clear(g_c), s	0.0	34.0	34.0	10.0	6.5	0.0				13.2	0.0	35.0
Prop In Lane	0.00		0.34	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1823	666	979	3631	0				1014	0	902
V/C Ratio(X)	0.00	1.02	1.03	0.47	0.28	0.00				0.50	0.00	1.24
Avail Cap(c_a), veh/h	0	1823	666	979	3631	0				1014	0	902
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	28.0	28.1	26.7	4.7	0.0				20.8	0.0	27.5
Incr Delay (d2), s/veh	0.0	24.5	38.1	0.4	0.2	0.0				0.4	0.0	116.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.8	19.9	3.9	1.6	0.0				3.8	0.0	23.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	52.5	66.2	27.1	4.9	0.0				21.2	0.0	143.8
LnGrp LOS	A	F	F	C	A	A				C	A	F
Approach Vol, veh/h		2548			1484						1619	
Approach Delay, s/veh		56.2			11.8						105.7	
Approach LOS		E			B						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	30.5	38.0		39.0		68.5
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	9.0	* 34		34.0		46.5
Max Q Clear Time (g_c+I1), s	12.0	36.0		37.0		8.5
Green Ext Time (p_c), s	0.0	0.0		0.0		4.8

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1530	1140	0	1320	340	330
Future Volume (veh/h)	1530	1140	0	1320	340	330
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1611	0	0	1389	358	320
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	3454		0	4353	811	372
Arrive On Green	0.68	0.00	0.00	0.68	0.23	0.23
Sat Flow, veh/h	5443	0	0	6958	3456	1585
Grp Volume(v), veh/h	1611	0	0	1389	358	320
Grp Sat Flow(s),veh/h/ln	1702	0	0	1609	1728	1585
Q Serve(g_s), s	13.4	0.0	0.0	8.0	8.0	17.4
Cycle Q Clear(g_c), s	13.4	0.0	0.0	8.0	8.0	17.4
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3454		0	4353	811	372
V/C Ratio(X)	0.47		0.00	0.32	0.44	0.86
Avail Cap(c_a), veh/h	3454		0	4353	960	440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	0.0	6.0	29.4	33.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.0	0.1	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	0.0	2.0	3.2	7.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	7.3	0.0	0.0	6.0	29.6	45.4
LnGrp LOS	A		A	A	C	D
Approach Vol, veh/h	1611	A		1389	678	
Approach Delay, s/veh	7.3			6.0	37.1	
Approach LOS	A			A	D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	64.9				64.9	25.1
Change Period (Y+Rc), s	4.5				4.5	5.0
Max Green Setting (Gmax), s	56.5				56.5	24.0
Max Q Clear Time (g_c+I1), s	15.4				10.0	19.4
Green Ext Time (p_c), s	9.3				7.5	0.7

Intersection Summary		
HCM 6th Ctrl Delay	12.3	
HCM 6th LOS	B	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	760	100	200	1800	280	280	290	140	140	120	40
Future Volume (veh/h)	170	760	100	200	1800	280	280	290	140	140	120	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	800	37	211	1895	281	295	305	0	147	126	5
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	2012	625	329	1955	287	551	401		227	200	169
Arrive On Green	0.07	0.39	0.39	0.10	0.43	0.42	0.16	0.21	0.00	0.07	0.11	0.11
Sat Flow, veh/h	1781	5106	1585	3456	4497	659	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	179	800	37	211	1429	747	295	305	0	147	126	5
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1752	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	5.0	8.3	1.1	4.3	30.1	30.9	5.8	11.3	0.0	3.1	4.7	0.2
Cycle Q Clear(g_c), s	5.0	8.3	1.1	4.3	30.1	30.9	5.8	11.3	0.0	3.1	4.7	0.2
Prop In Lane	1.00		1.00	1.00		0.38	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	121	2012	625	329	1480	762	551	401		227	200	169
V/C Ratio(X)	1.48	0.40	0.06	0.64	0.97	0.98	0.54	0.76		0.65	0.63	0.03
Avail Cap(c_a), veh/h	121	2012	625	376	1480	762	551	915		282	940	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	16.0	13.8	32.1	20.3	20.7	28.4	27.1	0.0	33.6	31.5	17.5
Incr Delay (d2), s/veh	254.5	0.6	0.2	1.9	16.5	28.2	0.5	3.0	0.0	1.7	3.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.6	2.9	0.4	1.8	13.2	16.5	2.2	4.9	0.0	1.3	2.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	288.8	16.6	14.0	34.0	36.8	48.9	29.0	30.1	0.0	35.3	34.7	17.6
LnGrp LOS	F	B	B	C	D	D	C	C		D	C	B
Approach Vol, veh/h		1016			2387			600	A		278	
Approach Delay, s/veh		64.5			40.3			29.6			34.7	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	33.0	16.7	11.9	9.0	36.0	8.8	19.8
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	* 4	5.0	* 4	5.0
Max Green Setting (Gmax), s	8.0	* 28	5.0	* 36	* 5	31.0	* 6	35.0
Max Q Clear Time (g_c+I1), s	10.3	10.3	7.8	6.7	7.0	32.9	5.1	13.3
Green Ext Time (p_c), s	0.1	6.6	0.0	0.6	0.0	0.0	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	44.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	760	510	20	2460	0	0	0	0	570	10	940
Future Volume (veh/h)	0	760	510	20	2460	0	0	0	0	570	10	940
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	800	288	21	2589	0				600	11	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2461	764	89	2887	0				644	12	
Arrive On Green	0.00	0.48	0.48	0.05	0.57	0.00				0.37	0.37	0.00
Sat Flow, veh/h	0	5274	1585	1781	5274	0				1751	32	2790
Grp Volume(v), veh/h	0	800	288	21	2589	0				611	0	0
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1781	1702	0				1783	0	1395
Q Serve(g_s), s	0.0	11.5	13.8	1.4	53.6	0.0				39.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	11.5	13.8	1.4	53.6	0.0				39.5	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	2461	764	89	2887	0				656	0	
V/C Ratio(X)	0.00	0.33	0.38	0.24	0.90	0.00				0.93	0.00	
Avail Cap(c_a), veh/h	0	2461	764	89	2887	0				683	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.22	0.22	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	19.1	19.7	54.8	23.0	0.0				36.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	1.1	0.3	1.2	0.0				19.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.4	5.0	0.6	19.4	0.0				20.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.3	20.7	55.1	24.2	0.0				55.6	0.0	0.0
LnGrp LOS	A	B	C	E	C	A				E	A	
Approach Vol, veh/h		1088			2610						611	A
Approach Delay, s/veh		19.7			24.4						55.6	
Approach LOS		B			C						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	61.8		48.2		71.8
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0
Max Green Setting (Gmax), s	5.0	55.0		44.5		65.0
Max Q Clear Time (g_c+I1), s	13.4	15.8		41.5		55.6
Green Ext Time (p_c), s	0.0	4.1		1.1		7.6

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	610	720	0	0	1270	350	1210	0	80	0	0	0
Future Volume (veh/h)	610	720	0	0	1270	350	1210	0	80	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	642	758	0	0	1337	215	1350	0	0			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	730	1858	0	0	1421	441	1463	768				
Arrive On Green	0.14	0.35	0.00	0.00	0.28	0.28	0.41	0.00	0.00			
Sat Flow, veh/h	3456	3647	0	0	5274	1585	3563	1870	0			
Grp Volume(v), veh/h	642	758	0	0	1337	215	1350	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1585	1781	1870	0			
Q Serve(g_s), s	21.9	19.4	0.0	0.0	30.7	13.6	43.2	0.0	0.0			
Cycle Q Clear(g_c), s	21.9	19.4	0.0	0.0	30.7	13.6	43.2	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	730	1858	0	0	1421	441	1463	768				
V/C Ratio(X)	0.88	0.41	0.00	0.00	0.94	0.49	0.92	0.00				
Avail Cap(c_a), veh/h	730	1858	0	0	1421	441	1532	804				
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	50.0	24.9	0.0	0.0	42.3	36.2	33.6	0.0	0.0			
Incr Delay (d2), s/veh	11.5	0.6	0.0	0.0	13.4	3.8	9.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	10.8	8.7	0.0	0.0	14.1	5.6	19.6	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.5	25.5	0.0	0.0	55.7	40.0	43.0	0.0	0.0			
LnGrp LOS	E	C	A	A	E	D	D	A				
Approach Vol, veh/h		1400			1552			1350	A			
Approach Delay, s/veh		42.0			53.5			43.0				
Approach LOS		D			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		66.7			29.3	37.4		53.3				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.5				
Max Green Setting (Gmax), s		59.4			22.0	32.4		50.1				
Max Q Clear Time (g_c+I1), s		21.4			23.9	32.7		45.2				
Green Ext Time (p_c), s		3.3			0.0	0.0		2.6				

Intersection Summary	
HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	740	80	70	1390	270	200	290	210	230	140	180
Future Volume (veh/h)	180	740	80	70	1390	270	200	290	210	230	140	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	779	77	74	1463	253	211	305	81	242	147	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	1742	172	95	1561	265	242	430	112	393	198	42
Arrive On Green	0.15	1.00	1.00	0.05	0.51	0.50	0.14	0.15	0.15	0.11	0.13	0.13
Sat Flow, veh/h	1781	3266	323	1781	3038	516	1781	2788	728	3456	1498	316
Grp Volume(v), veh/h	189	424	432	74	845	871	211	193	193	242	0	178
Grp Sat Flow(s),veh/h/ln	1781	1777	1812	1781	1777	1777	1781	1777	1739	1728	0	1814
Q Serve(g_s), s	8.0	0.0	0.0	4.5	48.5	51.4	12.8	11.3	11.7	7.3	0.0	10.4
Cycle Q Clear(g_c), s	8.0	0.0	0.0	4.5	48.5	51.4	12.8	11.3	11.7	7.3	0.0	10.4
Prop In Lane	1.00		0.18	1.00		0.29	1.00		0.42	1.00		0.17
Lane Grp Cap(c), veh/h	130	948	967	95	913	913	242	274	268	393	0	239
V/C Ratio(X)	1.46	0.45	0.45	0.78	0.93	0.95	0.87	0.70	0.72	0.62	0.00	0.74
Avail Cap(c_a), veh/h	130	948	967	130	913	913	453	452	443	942	0	544
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	47.0	0.0	0.0	51.4	24.8	25.6	46.6	44.1	44.5	46.4	0.0	45.9
Incr Delay (d2), s/veh	238.6	1.3	1.3	12.8	16.5	20.5	3.8	4.6	5.1	0.6	0.0	6.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	0.3	0.3	2.3	22.4	24.5	5.7	5.2	5.3	3.1	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	285.6	1.3	1.3	64.2	41.3	46.1	50.3	48.7	49.6	47.0	0.0	52.2
LnGrp LOS	F	A	A	E	D	D	D	D	D	D	A	D
Approach Vol, veh/h		1045			1790			597			420	
Approach Delay, s/veh		52.7			44.6			49.6			49.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	62.7	19.0	18.5	12.0	60.5	16.5	21.0
Change Period (Y+Rc), s	4.0	* 5	* 4	5.0	4.0	* 5	* 4	5.0
Max Green Setting (Gmax), s	8.0	* 24	* 28	32.0	8.0	* 24	* 30	27.0
Max Q Clear Time (g_c+I1), s	10.5	2.0	14.8	12.4	10.0	53.4	9.3	13.7
Green Ext Time (p_c), s	0.0	7.2	0.2	1.1	0.0	0.0	0.4	2.3

Intersection Summary	
HCM 6th Ctrl Delay	48.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1430	400	200	1030	0	0	0	0	430	10	370
Future Volume (veh/h)	0	1430	400	200	1030	0	0	0	0	430	10	370
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1505	389	211	1084	0				453	11	335
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1487	370	424	2880	0				443	11	403
Arrive On Green	0.00	1.00	1.00	0.48	1.00	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	2913	701	1781	3647	0				1741	42	1585
Grp Volume(v), veh/h	0	926	968	211	1084	0				464	0	335
Grp Sat Flow(s),veh/h/ln	0	1777	1744	1781	1777	0				1783	0	1585
Q Serve(g_s), s	0.0	0.0	55.3	9.0	0.0	0.0				28.0	0.0	22.0
Cycle Q Clear(g_c), s	0.0	0.0	55.3	9.0	0.0	0.0				28.0	0.0	22.0
Prop In Lane	0.00		0.40	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	937	920	424	2880	0				454	0	403
V/C Ratio(X)	0.00	0.99	1.05	0.50	0.38	0.00				1.02	0.00	0.83
Avail Cap(c_a), veh/h	0	937	920	424	2880	0				454	0	403
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.09	0.09	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.3	0.0	0.0				41.0	0.0	38.8
Incr Delay (d2), s/veh	0.0	26.8	44.4	0.1	0.0	0.0				48.0	0.0	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	11.3	3.2	0.0	0.0				17.9	0.0	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.8	44.4	24.4	0.0	0.0				89.0	0.0	51.6
LnGrp LOS	A	C	F	C	A	A				F	A	D
Approach Vol, veh/h		1894			1295						799	
Approach Delay, s/veh		35.8			4.0						73.3	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	31.2	62.0		32.0		93.2
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	12.3	* 57		27.0		73.0
Max Q Clear Time (g_c+I1), s	11.0	57.3		30.0		2.0
Green Ext Time (p_c), s	0.1	0.0		0.0		6.0

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	760	1100	0	0	660	360	630	10	450	0	0	0
Future Volume (veh/h)	760	1100	0	0	660	360	630	10	450	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	800	1158	0	0	695	315	663	11	461			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	1167	1244	0	0	670	304	432	7	301			
Arrive On Green	0.68	1.00	0.00	0.00	0.28	0.27	0.44	0.44	0.43			
Sat Flow, veh/h	3456	1870	0	0	2470	1077	991	16	689			
Grp Volume(v), veh/h	800	1158	0	0	520	490	1135	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1677	1697	0	0			
Q Serve(g_s), s	15.4	0.0	0.0	0.0	31.0	31.0	48.0	0.0	0.0			
Cycle Q Clear(g_c), s	15.4	0.0	0.0	0.0	31.0	31.0	48.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.64	0.58		0.41			
Lane Grp Cap(c), veh/h	1167	1244	0	0	501	472	740	0	0			
V/C Ratio(X)	0.69	0.93	0.00	0.00	1.04	1.04	1.53	0.00	0.00			
Avail Cap(c_a), veh/h	1167	1244	0	0	501	472	740	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	14.3	0.0	0.0	0.0	39.5	39.8	31.2	0.0	0.0			
Incr Delay (d2), s/veh	0.2	1.7	0.0	0.0	50.3	51.6	246.6	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.8	0.6	0.0	0.0	20.1	19.2	69.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	1.7	0.0	0.0	89.8	91.4	277.8	0.0	0.0			
LnGrp LOS	B	A	A	A	F	F	F	A	A			
Approach Vol, veh/h		1958			1010			1135				
Approach Delay, s/veh		6.9			90.6			277.8				
Approach LOS		A			F			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		77.1			42.1	35.0		52.0				
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0				
Max Green Setting (Gmax), s		53.0			19.0	* 30		47.0				
Max Q Clear Time (g_c+I1), s		2.0			17.4	33.0		50.0				
Green Ext Time (p_c), s		7.7			0.6	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	102.5
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	360	310	270	650	460	1060	780	500	120	110	80
Future Volume (veh/h)	60	360	310	270	650	460	1060	780	500	120	110	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	379	120	284	684	346	1116	821	361	126	116	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	758	666	839	1225	570	1433	868	993	269	778	239
Arrive On Green	0.01	0.07	0.07	0.17	0.36	0.35	0.21	0.46	0.46	0.04	0.29	0.28
Sat Flow, veh/h	3456	3554	1585	3456	3404	1585	3456	1870	1585	3456	2677	822
Grp Volume(v), veh/h	63	379	120	284	684	346	1116	821	361	126	75	78
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1585	1728	1870	1585	1728	1777	1722
Q Serve(g_s), s	2.7	15.4	4.3	0.0	24.1	27.0	32.0	62.9	2.9	3.8	4.7	5.0
Cycle Q Clear(g_c), s	2.7	15.4	4.3	0.0	24.1	27.0	32.0	62.9	2.9	3.8	4.7	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	102	758	666	839	1225	570	1433	868	993	269	517	501
V/C Ratio(X)	0.62	0.50	0.18	0.34	0.56	0.61	0.78	0.95	0.36	0.47	0.15	0.15
Avail Cap(c_a), veh/h	184	758	666	839	1225	570	1433	910	1029	454	652	632
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.4	62.0	13.7	48.0	38.5	39.8	27.4	38.4	6.0	40.8	39.4	39.7
Incr Delay (d2), s/veh	6.0	2.3	0.6	0.2	1.8	4.7	2.8	17.7	0.2	1.3	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	7.6	2.0	4.4	10.2	11.1	14.4	31.7	3.1	1.7	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.4	64.3	14.2	48.2	40.3	44.5	30.2	56.1	6.2	42.1	39.5	39.8
LnGrp LOS	E	E	B	D	D	D	C	E	A	D	D	D
Approach Vol, veh/h		562			1314			2298			279	
Approach Delay, s/veh		55.3			43.1			35.7			40.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	36.0	36.0	47.6	8.4	58.0	10.0	73.6
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	15.0	* 31	32.0	54.0	8.0	38.0	14.0	72.0
Max Q Clear Time (g_c+I1), s	12.0	17.4	34.0	7.0	4.7	29.0	5.8	64.9
Green Ext Time (p_c), s	0.8	2.2	0.0	0.8	0.0	4.2	0.2	3.7

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1490	30	120	90	0	0	0	0	480	10	180
Future Volume (veh/h)	0	1490	30	120	90	0	0	0	0	480	10	180
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1568	21	126	95	0				505	11	86
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1751	781	150	2160	0				577	13	923
Arrive On Green	0.00	0.49	0.49	0.08	0.61	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1745	38	2790
Grp Volume(v), veh/h	0	1568	21	126	95	0				516	0	86
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1783	0	1395
Q Serve(g_s), s	0.0	52.1	0.9	9.1	1.4	0.0				35.4	0.0	2.8
Cycle Q Clear(g_c), s	0.0	52.1	0.9	9.1	1.4	0.0				35.4	0.0	2.8
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1751	781	150	2160	0				590	0	923
V/C Ratio(X)	0.00	0.90	0.03	0.84	0.04	0.00				0.87	0.00	0.09
Avail Cap(c_a), veh/h	0	1751	781	151	2160	0				590	0	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.96	0.96	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	29.9	17.0	58.7	10.3	0.0				41.0	0.0	30.0
Incr Delay (d2), s/veh	0.0	6.5	0.0	31.3	0.0	0.0				16.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	22.9	0.3	5.4	0.5	0.0				18.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	36.4	17.0	90.0	10.3	0.0				57.5	0.0	30.2
LnGrp LOS	A	D	B	F	B	A				E	A	C
Approach Vol, veh/h		1589			221						602	
Approach Delay, s/veh		36.2			55.7						53.6	
Approach LOS		D			E						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.9	68.1		47.0		83.0
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	11.0	62.0		41.0		77.0
Max Q Clear Time (g_c+I1), s	11.1	54.1		37.4		3.4
Green Ext Time (p_c), s	0.0	5.9		1.3		0.6

Intersection Summary	
HCM 6th Ctrl Delay	42.3
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1150	1080	0	0	170	480	40	10	370	0	0	0
Future Volume (veh/h)	1150	1080	0	0	170	480	40	10	370	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	1211	1137	0	0	179	249	42	11	151			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	1620	1309	0	0	685	305	340	89	665			
Arrive On Green	0.47	0.70	0.00	0.00	0.19	0.19	0.24	0.24	0.24			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	1426	373	2790			
Grp Volume(v), veh/h	1211	1137	0	0	179	249	53	0	151			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1799	0	1395			
Q Serve(g_s), s	37.3	60.5	0.0	0.0	5.6	19.6	3.0	0.0	5.7			
Cycle Q Clear(g_c), s	37.3	60.5	0.0	0.0	5.6	19.6	3.0	0.0	5.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.79		1.00			
Lane Grp Cap(c), veh/h	1620	1309	0	0	685	305	429	0	665			
V/C Ratio(X)	0.75	0.87	0.00	0.00	0.26	0.82	0.12	0.00	0.23			
Avail Cap(c_a), veh/h	1620	1309	0	0	957	427	429	0	665			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.32	0.32	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.2	14.9	0.0	0.0	44.6	50.3	38.8	0.0	39.9			
Incr Delay (d2), s/veh	0.6	2.8	0.0	0.0	0.2	8.2	0.6	0.0	0.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.1	23.4	0.0	0.0	2.5	8.4	1.4	0.0	2.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.9	17.7	0.0	0.0	44.8	58.5	39.4	0.0	40.6			
LnGrp LOS	C	B	A	A	D	E	D	A	D			
Approach Vol, veh/h		2348			428			204				
Approach Delay, s/veh		23.5			52.8			40.3				
Approach LOS		C			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.0			66.0	29.0		35.0				
Change Period (Y+Rc), s		6.0			6.0	* 6		6.0				
Max Green Setting (Gmax), s		89.0			51.0	* 33		29.0				
Max Q Clear Time (g_c+I1), s		62.5			39.3	21.6		7.7				
Green Ext Time (p_c), s		11.5			4.1	1.5		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1520	200	130	180	0	0	0	0	180	10	440
Future Volume (veh/h)	0	1520	200	130	180	0	0	0	0	180	10	440
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1600	178	137	189	0				189	11	58
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2515	1122	181	2515	0				389	23	366
Arrive On Green	0.00	0.71	0.71	1.00	1.00	0.00				0.23	0.23	0.23
Sat Flow, veh/h	0	3647	1585	267	3647	0				1688	98	1585
Grp Volume(v), veh/h	0	1600	178	137	189	0				200	0	58
Grp Sat Flow(s),veh/h/ln	0	1777	1585	267	1777	0				1786	0	1585
Q Serve(g_s), s	0.0	31.1	4.8	60.9	0.0	0.0				12.6	0.0	3.8
Cycle Q Clear(g_c), s	0.0	31.1	4.8	92.0	0.0	0.0				12.6	0.0	3.8
Prop In Lane	0.00		1.00	1.00		0.00				0.94		1.00
Lane Grp Cap(c), veh/h	0	2515	1122	181	2515	0				412	0	366
V/C Ratio(X)	0.00	0.64	0.16	0.76	0.08	0.00				0.49	0.00	0.16
Avail Cap(c_a), veh/h	0	2515	1122	181	2515	0				412	0	366
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.78	0.78	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.1	6.3	18.2	0.0	0.0				43.3	0.0	39.9
Incr Delay (d2), s/veh	0.0	0.5	0.1	13.5	0.0	0.0				4.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.3	1.6	4.7	0.0	0.0				6.1	0.0	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	10.6	6.3	31.7	0.0	0.0				47.4	0.0	40.8
LnGrp LOS	A	B	A	C	A	A				D	A	D
Approach Vol, veh/h		1778			326						258	
Approach Delay, s/veh		10.2			13.3						45.9	
Approach LOS		B			B						D	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		96.0		34.0		96.0
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		91.0		29.0		91.0
Max Q Clear Time (g_c+I1), s		33.1		14.6		94.0
Green Ext Time (p_c), s		22.8		1.1		0.0

Intersection Summary		
HCM 6th Ctrl Delay		14.5
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	1050	0	0	230	170	80	10	790	0	0	0
Future Volume (veh/h)	650	1050	0	0	230	170	80	10	790	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	684	1105	0	0	242	93	0	0	928			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	696	1674	0	0	362	149	0	874	1482			
Arrive On Green	0.68	0.94	0.00	0.00	0.10	0.09	0.00	0.00	0.47			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	0	1870	3170			
Grp Volume(v), veh/h	684	1105	0	0	242	93	0	0	928			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	0	1870	1585			
Q Serve(g_s), s	44.0	6.2	0.0	0.0	8.5	7.3	0.0	0.0	28.7			
Cycle Q Clear(g_c), s	44.0	6.2	0.0	0.0	8.5	7.3	0.0	0.0	28.7			
Prop In Lane	1.00		0.00	0.00		1.00	0.00		1.00			
Lane Grp Cap(c), veh/h	696	1674	0	0	362	149	0	874	1482			
V/C Ratio(X)	0.98	0.66	0.00	0.00	0.67	0.62	0.00	0.00	0.63			
Avail Cap(c_a), veh/h	696	2132	0	0	820	354	0	874	1482			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.74	0.74	0.00	0.00	1.00	1.00	0.00	0.00	1.00			
Uniform Delay (d), s/veh	17.8	2.2	0.0	0.0	56.3	56.7	0.0	0.0	26.1			
Incr Delay (d2), s/veh	25.1	0.4	0.0	0.0	2.1	4.2	0.0	0.0	2.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	16.0	1.1	0.0	0.0	3.9	3.1	0.0	0.0	11.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	2.6	0.0	0.0	58.4	60.9	0.0	0.0	28.1			
LnGrp LOS	D	A	A	A	E	E	A	A	C			
Approach Vol, veh/h		1789			335			928				
Approach Delay, s/veh		18.0			59.1			28.1				
Approach LOS		B			E			C				

Timer - Assigned Phs	2	4	7	8
Phs Duration (G+Y+Rc), s	64.8	65.2	48.0	17.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	43.0	77.0	43.0	29.0
Max Q Clear Time (g_c+I1), s	30.7	8.2	46.0	10.5
Green Ext Time (p_c), s	3.5	11.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	280	200	70	250	0	0	0	0	90	10	210
Future Volume (veh/h)	0	280	200	70	250	0	0	0	0	90	10	210
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	295	20	74	263	0				95	0	206
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	818	254	171	569	0				1386	0	2467
Arrive On Green	0.00	0.16	0.16	0.05	0.05	0.00				0.78	0.00	0.78
Sat Flow, veh/h	0	5274	1585	1065	3647	0				1781	0	3170
Grp Volume(v), veh/h	0	295	20	74	263	0				95	0	206
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1065	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	6.7	1.4	8.9	9.3	0.0				1.6	0.0	2.0
Cycle Q Clear(g_c), s	0.0	6.7	1.4	15.6	9.3	0.0				1.6	0.0	2.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	818	254	171	569	0				1386	0	2467
V/C Ratio(X)	0.00	0.36	0.08	0.43	0.46	0.00				0.07	0.00	0.08
Avail Cap(c_a), veh/h	0	2592	805	541	1804	0				1386	0	2467
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.99	0.99	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	48.7	46.4	62.4	56.1	0.0				3.4	0.0	3.4
Incr Delay (d2), s/veh	0.0	0.3	0.1	1.7	0.6	0.0				0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.9	0.6	2.6	4.5	0.0				0.6	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	48.9	46.6	64.1	56.7	0.0				3.5	0.0	3.5
LnGrp LOS	A	D	D	E	E	A				A	A	A
Approach Vol, veh/h		315			337						301	
Approach Delay, s/veh		48.8			58.3						3.5	
Approach LOS		D			E						A	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		24.8		105.2		24.8
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		65.0		55.0		65.0
Max Q Clear Time (g_c+I1), s		8.7		4.0		17.6
Green Ext Time (p_c), s		2.3		1.1		2.2

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	150	0	0	90	120	230	10	440	0	0	0
Future Volume (veh/h)	220	150	0	0	90	120	230	10	440	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	232	158	0	0	95	33	165	0	505			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	423	536	0	0	536	239	1403	0	2497			
Arrive On Green	0.25	0.25	0.00	0.00	0.15	0.15	0.79	0.00	0.79			
Sat Flow, veh/h	2449	3647	0	0	3647	1585	1781	0	3170			
Grp Volume(v), veh/h	232	158	0	0	95	33	165	0	505			
Grp Sat Flow(s),veh/h/ln	1225	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	11.5	4.7	0.0	0.0	3.0	2.3	2.8	0.0	5.2			
Cycle Q Clear(g_c), s	14.5	4.7	0.0	0.0	3.0	2.3	2.8	0.0	5.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	423	536	0	0	536	239	1403	0	2497			
V/C Ratio(X)	0.55	0.29	0.00	0.00	0.18	0.14	0.12	0.00	0.20			
Avail Cap(c_a), veh/h	1014	1394	0	0	1394	622	1403	0	2497			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	48.1	43.0	0.0	0.0	48.1	47.9	3.2	0.0	3.5			
Incr Delay (d2), s/veh	1.1	0.3	0.0	0.0	0.2	0.3	0.2	0.0	0.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	8.3	2.0	0.0	0.0	1.4	1.0	0.9	0.0	1.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	43.3	0.0	0.0	48.3	48.1	3.4	0.0	3.7			
LnGrp LOS	D	D	A	A	D	D	A	A	A			
Approach Vol, veh/h		390			128			670				
Approach Delay, s/veh		46.8			48.3			3.6				
Approach LOS		D			D			A				

Timer - Assigned Phs	2		4			8
Phs Duration (G+Y+Rc), s	106.4		23.6			23.6
Change Period (Y+Rc), s	5.0		5.0			5.0
Max Green Setting (Gmax), s	70.0		50.0			50.0
Max Q Clear Time (g_c+I1), s	7.2		16.5			5.0
Green Ext Time (p_c), s	2.8		2.1			0.7

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	400	20	880	640	90	20	420	320	60	340	250
Future Volume (veh/h)	140	400	20	880	640	90	20	420	320	60	340	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	421	21	926	674	87	21	442	0	63	358	90
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	1201	536	935	1776	762	56	647		98	730	326
Arrive On Green	0.11	0.34	0.34	0.27	0.50	0.48	0.03	0.18	0.00	0.05	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	147	421	21	926	674	87	21	442	0	63	358	90
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.3	9.2	0.9	27.6	12.1	3.1	1.2	12.0	0.0	3.6	9.2	5.0
Cycle Q Clear(g_c), s	8.3	9.2	0.9	27.6	12.1	3.1	1.2	12.0	0.0	3.6	9.2	5.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	1201	536	935	1776	762	56	647		98	730	326
V/C Ratio(X)	0.76	0.35	0.04	0.99	0.38	0.11	0.37	0.68		0.64	0.49	0.28
Avail Cap(c_a), veh/h	344	1201	536	935	1776	762	103	1750		172	1888	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	25.7	23.0	37.6	16.0	14.8	49.1	39.6	0.0	47.9	36.3	34.7
Incr Delay (d2), s/veh	2.3	0.8	0.1	27.1	0.6	0.3	1.5	1.3	0.0	2.6	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	3.8	0.3	14.5	4.6	1.1	0.5	5.1	0.0	1.6	3.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	26.5	23.1	64.7	16.6	15.1	50.7	40.8	0.0	50.6	36.9	35.1
LnGrp LOS	D	C	C	E	B	B	D	D		D	D	D
Approach Vol, veh/h		589			1687			463	A		511	
Approach Delay, s/veh		31.6			42.9			41.3			38.2	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	39.0	7.3	25.3	15.3	55.7	9.7	22.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	27.0	33.0	5.0	53.0	19.0	41.0	9.0	49.0
Max Q Clear Time (g_c+I1), s	29.6	11.2	3.2	11.2	10.3	14.1	5.6	14.0
Green Ext Time (p_c), s	0.0	3.5	0.0	2.5	0.1	6.8	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	39.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	240	220	210	430	390	190	530	110	240	700	110
Future Volume (veh/h)	120	240	220	210	430	390	190	530	110	240	700	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	253	172	221	453	250	200	558	63	253	737	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	683	674	248	528	289	830	990	651	953	984	137
Arrive On Green	0.09	0.19	0.19	0.14	0.24	0.23	0.48	0.56	0.54	0.28	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	2215	1214	3456	3554	1585	3456	3131	437
Grp Volume(v), veh/h	126	253	172	221	363	340	200	558	63	253	418	422
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1652	1728	1777	1585	1728	1777	1792
Q Serve(g_s), s	9.7	8.7	2.9	17.1	27.4	27.7	4.8	14.2	0.8	8.0	29.5	29.6
Cycle Q Clear(g_c), s	9.7	8.7	2.9	17.1	27.4	27.7	4.8	14.2	0.8	8.0	29.5	29.6
Prop In Lane	1.00		1.00	1.00		0.73	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	153	683	674	248	423	394	830	990	651	953	558	563
V/C Ratio(X)	0.82	0.37	0.26	0.89	0.86	0.86	0.24	0.56	0.10	0.27	0.75	0.75
Avail Cap(c_a), veh/h	382	1041	834	356	495	460	830	990	651	953	558	563
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.90	0.90	0.90	0.94	0.94	0.94
Uniform Delay (d), s/veh	63.0	49.2	11.4	59.2	51.0	51.5	28.9	25.5	6.4	39.6	43.0	43.2
Incr Delay (d2), s/veh	10.6	0.3	0.2	17.4	12.1	13.7	0.1	2.1	0.3	0.1	8.4	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.8	2.0	8.8	13.4	12.8	1.9	5.0	0.4	3.4	13.9	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	49.5	11.6	76.7	63.1	65.2	29.0	27.6	6.6	39.7	51.4	51.5
LnGrp LOS	E	D	B	E	E	E	C	C	A	D	D	D
Approach Vol, veh/h		551			924			821			1093	
Approach Delay, s/veh		43.2			67.1			26.3			48.8	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.6	43.0	23.5	30.9	37.6	48.0	17.0	37.4
Change Period (Y+Rc), s	* 4	5.0	4.0	* 5	* 4	5.0	* 5	* 5
Max Green Setting (Gmax), s	* 16	38.0	28.0	* 40	* 11	43.0	* 30	* 38
Max Q Clear Time (g_c+I1), s	10.0	16.2	19.1	10.7	6.8	31.6	11.7	29.7
Green Ext Time (p_c), s	0.4	3.9	0.4	2.0	0.2	3.7	0.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	550	730	0	1150	810	1050
Future Volume (veh/h)	550	730	0	1150	810	1050
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	667	674	0	1211	853	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	876	780	0	1946	1354	
Arrive On Green	0.49	0.49	0.00	0.38	0.38	0.00
Sat Flow, veh/h	1781	1585	0	5443	3647	1585
Grp Volume(v), veh/h	667	674	0	1211	853	0
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1777	1585
Q Serve(g_s), s	19.2	23.7	0.0	12.1	12.3	0.0
Cycle Q Clear(g_c), s	19.2	23.7	0.0	12.1	12.3	0.0
Prop In Lane	1.00	1.00	0.00			1.00
Lane Grp Cap(c), veh/h	876	780	0	1946	1354	
V/C Ratio(X)	0.76	0.86	0.00	0.62	0.63	
Avail Cap(c_a), veh/h	1075	956	0	1946	1354	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.0	14.1	0.0	15.8	15.9	0.0
Incr Delay (d2), s/veh	2.6	7.1	0.0	1.5	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	8.6	0.0	4.4	4.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.6	21.2	0.0	17.3	18.1	0.0
LnGrp LOS	B	C	A	B	B	
Approach Vol, veh/h	1341			1211	853	A
Approach Delay, s/veh	18.4			17.3	18.1	
Approach LOS	B			B	B	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	28.0		35.0		28.0
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	23.0		37.0		23.0
Max Q Clear Time (g_c+I1), s	14.1		25.7		14.3
Green Ext Time (p_c), s	4.0		4.3		2.7

Intersection Summary		
HCM 6th Ctrl Delay		18.0
HCM 6th LOS		B

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	840	30	70	840	170	180	350	60	300	190	110
Future Volume (veh/h)	160	840	30	70	840	170	180	350	60	300	190	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	168	884	32	74	884	167	189	368	63	316	200	75
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	215	1224	44	117	1086	205	212	1077	183	362	868	315
Arrive On Green	0.06	0.35	0.34	0.07	0.36	0.35	0.12	0.35	0.35	0.17	0.57	0.56
Sat Flow, veh/h	3456	3498	127	1781	2982	563	1781	3039	516	3456	2553	927
Grp Volume(v), veh/h	168	449	467	74	527	524	189	214	217	316	137	138
Grp Sat Flow(s),veh/h/ln	1728	1777	1848	1781	1777	1769	1781	1777	1778	1728	1777	1704
Q Serve(g_s), s	6.7	30.8	30.8	5.7	37.5	37.6	14.6	12.4	12.6	12.5	5.4	5.7
Cycle Q Clear(g_c), s	6.7	30.8	30.8	5.7	37.5	37.6	14.6	12.4	12.6	12.5	5.4	5.7
Prop In Lane	1.00		0.07	1.00		0.32	1.00		0.29	1.00		0.54
Lane Grp Cap(c), veh/h	215	622	647	117	647	644	212	630	630	362	604	579
V/C Ratio(X)	0.78	0.72	0.72	0.63	0.81	0.81	0.89	0.34	0.34	0.87	0.23	0.24
Avail Cap(c_a), veh/h	247	622	647	153	647	644	280	630	630	469	604	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	64.7	39.6	39.6	63.7	40.2	40.4	60.7	33.2	33.4	56.9	21.1	21.5
Incr Delay (d2), s/veh	10.0	6.4	6.2	2.1	10.8	10.8	19.7	1.5	1.5	10.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	14.2	14.7	2.6	17.8	17.8	7.7	5.6	5.7	5.6	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.7	46.0	45.8	65.8	51.0	51.3	80.4	34.6	34.8	67.8	22.0	22.5
LnGrp LOS	E	D	D	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		1084			1125			620			591	
Approach Delay, s/veh		50.4			52.1			48.7			46.6	
Approach LOS		D			D			D			D	

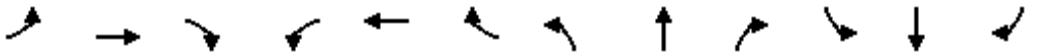
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	53.0	20.7	51.6	12.7	55.0	18.7	53.6
Change Period (Y+Rc), s	5.5	* 5.5	* 4	5.0	* 4	5.5	* 4	5.0
Max Green Setting (Gmax), s	12.3	* 48	* 22	40.0	* 10	49.5	* 19	43.0
Max Q Clear Time (g_c+I1), s	7.7	32.8	16.6	7.7	8.7	39.6	14.5	14.6
Green Ext Time (p_c), s	0.0	4.6	0.1	1.6	0.0	4.4	0.2	2.6

Intersection Summary	
HCM 6th Ctrl Delay	50.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Future Year (2040) General Plan Buildout PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	320	220	600	270	0	0	0	0	170	0	350
Future Volume (veh/h)	0	320	220	600	270	0	0	0	0	170	0	350
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1885	1885	1885	1885	0				1885	1885	1885
Adj Flow Rate, veh/h	0	337	183	632	284	0				179	0	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	1	1	1	1	0				1	1	1
Cap, veh/h	0	1402	746	849	1562	0				328	0	146
Arrive On Green	0.00	0.62	0.60	0.28	1.00	0.00				0.09	0.00	0.09
Sat Flow, veh/h	0	2352	1202	5063	1885	0				3591	0	1598
Grp Volume(v), veh/h	0	266	254	632	284	0				179	0	55
Grp Sat Flow(s),veh/h/ln	0	1791	1669	1688	1885	0				1795	0	1598
Q Serve(g_s), s	0.0	6.6	7.0	11.4	0.0	0.0				4.8	0.0	3.2
Cycle Q Clear(g_c), s	0.0	6.6	7.0	11.4	0.0	0.0				4.8	0.0	3.2
Prop In Lane	0.00		0.72	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1112	1036	849	1562	0				328	0	146
V/C Ratio(X)	0.00	0.24	0.25	0.74	0.18	0.00				0.55	0.00	0.38
Avail Cap(c_a), veh/h	0	1112	1036	1114	1562	0				970	0	431
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.86	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.4	8.8	34.0	0.0	0.0				43.4	0.0	42.8
Incr Delay (d2), s/veh	0.0	0.5	0.6	1.7	0.2	0.0				0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.4	4.1	0.1	0.0				2.1	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.9	9.4	35.7	0.2	0.0				44.0	0.0	43.4
LnGrp LOS	A	A	A	D	A	A				D	A	D
Approach Vol, veh/h		520			916						234	
Approach Delay, s/veh		9.2			24.7						43.8	
Approach LOS		A			C						D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		86.9			20.8	66.1		13.1				
Change Period (Y+Rc), s		6.0			6.0	6.0		6.0				
Max Green Setting (Gmax), s		63.0			20.0	37.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0			13.4	9.0		6.8				
Green Ext Time (p_c), s		0.9			1.4	1.8		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

Notes

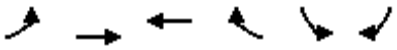
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	310	0	0	710	170	160	0	1300	0	0	0
Future Volume (veh/h)	180	310	0	0	710	170	160	0	1300	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	189	326	0	0	747	128	168	0	1221			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	232	1777	0	0	1449	246	748	0	1172			
Arrive On Green	0.26	1.00	0.00	0.00	0.33	0.33	0.42	0.00	0.42			
Sat Flow, veh/h	1781	3647	0	0	4562	746	1781	0	2790			
Grp Volume(v), veh/h	189	326	0	0	577	298	168	0	1221			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1702	1736	1781	0	1395			
Q Serve(g_s), s	10.0	0.0	0.0	0.0	13.7	13.9	6.0	0.0	42.0			
Cycle Q Clear(g_c), s	10.0	0.0	0.0	0.0	13.7	13.9	6.0	0.0	42.0			
Prop In Lane	1.00		0.00	0.00		0.43	1.00		1.00			
Lane Grp Cap(c), veh/h	232	1777	0	0	1122	572	748	0	1172			
V/C Ratio(X)	0.81	0.18	0.00	0.00	0.51	0.52	0.22	0.00	1.04			
Avail Cap(c_a), veh/h	285	1777	0	0	1122	572	748	0	1172			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.96	0.96	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	35.8	0.0	0.0	0.0	27.1	27.1	18.6	0.0	29.0			
Incr Delay (d2), s/veh	13.3	0.2	0.0	0.0	1.7	3.4	0.1	0.0	37.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.5	0.1	0.0	0.0	5.5	5.9	2.5	0.0	19.5			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	0.2	0.0	0.0	28.7	30.5	18.6	0.0	66.9			
LnGrp LOS	D	A	A	A	C	C	B	A	F			
Approach Vol, veh/h		515			875			1389				
Approach Delay, s/veh		18.2			29.3			61.1				
Approach LOS		B			C			E				

Timer - Assigned Phs	1	2		4		6			
Phs Duration (G+Y+Rc), s	17.0	37.0		46.0		54.0			
Change Period (Y+Rc), s	5.0	6.0		6.0		6.0			
Max Green Setting (Gmax), s	15.0	28.0		40.0		48.0			
Max Q Clear Time (g_c+I1), s	12.0	15.9		44.0		2.0			
Green Ext Time (p_c), s	0.1	2.8		0.0		1.3			

Intersection Summary		
HCM 6th Ctrl Delay	43.1	
HCM 6th LOS	D	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	500	1170	1160	20	30	220
Future Volume (veh/h)	500	1170	1160	20	30	220
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	526	1232	1221	20	32	232
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	606	3771	1756	29	256	767
Arrive On Green	0.34	0.74	0.34	0.32	0.14	0.14
Sat Flow, veh/h	1781	5274	5343	85	1781	1585
Grp Volume(v), veh/h	526	1232	803	438	32	232
Grp Sat Flow(s),veh/h/ln	1781	1702	1702	1855	1781	1585
Q Serve(g_s), s	18.8	5.7	13.9	13.9	1.1	6.0
Cycle Q Clear(g_c), s	18.8	5.7	13.9	13.9	1.1	6.0
Prop In Lane	1.00			0.05	1.00	1.00
Lane Grp Cap(c), veh/h	606	3771	1155	630	256	767
V/C Ratio(X)	0.87	0.33	0.70	0.70	0.12	0.30
Avail Cap(c_a), veh/h	865	5035	1503	819	786	1239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	3.1	19.4	19.4	25.4	10.6
Incr Delay (d2), s/veh	6.8	0.1	1.0	1.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.7	4.8	5.4	0.4	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.7	3.1	20.4	21.2	25.6	10.8
LnGrp LOS	C	A	C	C	C	B
Approach Vol, veh/h		1758	1241		264	
Approach Delay, s/veh		10.5	20.6		12.6	
Approach LOS		B	C		B	

Timer - Assigned Phs		4		6	7	8
Phs Duration (G+Y+Rc), s		54.2		13.8	27.1	27.1
Change Period (Y+Rc), s		5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s		66.0		29.0	32.0	29.0
Max Q Clear Time (g_c+I1), s		7.7		8.0	20.8	15.9
Green Ext Time (p_c), s		10.8		0.8	1.3	6.2

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	110	160	20	10	70	350	50	10	620	40
Future Volume (veh/h)	30	40	110	160	20	10	70	350	50	10	620	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	15	168	21	-15	74	368	41	11	653	39
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	115	97	178	245	0	95	2088	231	24	2070	124
Arrive On Green	0.03	0.06	0.06	0.10	0.13	0.00	0.05	0.65	0.64	0.01	0.61	0.60
Sat Flow, veh/h	1781	1870	1585	1781	1870	0	1781	3226	357	1781	3407	203
Grp Volume(v), veh/h	32	42	15	168	6	0	74	202	207	11	340	352
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	1870	0	1781	1777	1806	1781	1777	1834
Q Serve(g_s), s	1.6	1.9	0.8	8.4	0.3	0.0	3.7	4.1	4.1	0.6	8.4	8.4
Cycle Q Clear(g_c), s	1.6	1.9	0.8	8.4	0.3	0.0	3.7	4.1	4.1	0.6	8.4	8.4
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	54	115	97	178	245	0	95	1150	1169	24	1079	1114
V/C Ratio(X)	0.59	0.37	0.15	0.94	0.02	0.00	0.78	0.18	0.18	0.46	0.32	0.32
Avail Cap(c_a), veh/h	99	623	528	178	707	0	99	1150	1169	99	1079	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.98	0.98	0.98
Uniform Delay (d), s/veh	43.1	40.5	40.0	40.2	34.1	0.0	42.1	6.3	6.4	44.1	8.6	8.6
Incr Delay (d2), s/veh	3.7	1.9	0.7	50.5	0.0	0.0	28.0	0.3	0.3	5.0	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.3	6.1	0.1	0.0	2.3	1.4	1.5	0.3	3.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	42.5	40.7	90.7	34.1	0.0	70.1	6.6	6.7	49.1	9.3	9.3
LnGrp LOS	D	D	D	F	C	A	E	A	A	D	A	A
Approach Vol, veh/h		89			174			483			703	
Approach Delay, s/veh		43.7			88.8			16.4			10.0	
Approach LOS		D			F			B			A	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	62.3	13.0	9.5	8.8	58.7	6.8	15.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	5.3	29.0	9.0	29.0	5.0	29.0	5.0	33.0
Max Q Clear Time (g_c+I1), s	2.6	6.1	10.4	3.9	5.7	10.4	3.6	2.3
Green Ext Time (p_c), s	0.0	3.3	0.0	0.2	0.0	5.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1100	20	10	1050	100	10	20	10	440	30	250
Future Volume (veh/h)	150	1100	20	10	1050	100	10	20	10	440	30	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	1158	21	11	1105	105	11	21	11	463	32	263
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	1683	31	35	1354	129	170	312	147	597	687	706
Arrive On Green	0.08	0.47	0.46	0.02	0.41	0.40	0.37	0.37	0.36	0.37	0.37	0.37
Sat Flow, veh/h	3456	3571	65	1781	3280	311	317	851	401	1377	1870	1585
Grp Volume(v), veh/h	158	576	603	11	598	612	43	0	0	463	32	263
Grp Sat Flow(s),veh/h/ln	1728	1777	1859	1781	1777	1814	1569	0	0	1377	1870	1585
Q Serve(g_s), s	3.7	21.5	21.5	0.5	25.2	25.3	0.0	0.0	0.0	25.2	0.9	9.3
Cycle Q Clear(g_c), s	3.7	21.5	21.5	0.5	25.2	25.3	1.3	0.0	0.0	26.6	0.9	9.3
Prop In Lane	1.00		0.03	1.00		0.17	0.26		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	270	837	876	35	734	749	630	0	0	597	687	706
V/C Ratio(X)	0.59	0.69	0.69	0.31	0.82	0.82	0.07	0.00	0.00	0.78	0.05	0.37
Avail Cap(c_a), veh/h	285	837	876	84	734	749	717	0	0	676	794	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	17.5	17.6	41.0	22.0	22.1	17.5	0.0	0.0	25.2	17.3	15.6
Incr Delay (d2), s/veh	3.5	4.6	4.4	4.9	9.7	9.6	0.0	0.0	0.0	5.0	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	8.7	9.0	0.3	11.2	11.5	0.5	0.0	0.0	8.8	0.4	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	22.1	22.0	45.8	31.7	31.7	17.5	0.0	0.0	30.2	17.3	16.0
LnGrp LOS	D	C	C	D	C	C	B	A	A	C	B	B
Approach Vol, veh/h		1337			1221			43			758	
Approach Delay, s/veh		24.3			31.8			17.5			24.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.7	43.9		35.1	10.6	39.0		35.1
Change Period (Y+Rc), s	5.0	* 5		5.0	5.0	* 5		5.0
Max Green Setting (Gmax), s	3.6	* 37		35.0	6.0	* 34		35.0
Max Q Clear Time (g_c+I1), s	2.5	23.5		28.6	5.7	27.3		3.3
Green Ext Time (p_c), s	0.0	5.9		1.6	0.0	3.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



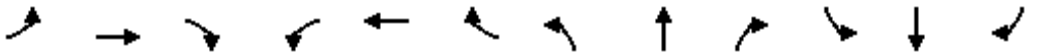
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	1100	0	0	960	20	0	0	0	50	0	170
Future Volume (veh/h)	130	1100	0	0	960	20	0	0	0	50	0	170
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	137	1158	0	0	1011	16				53	0	160
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2				2	2	2
Cap, veh/h	916	2286	0	191	2286	1020				258	0	459
Arrive On Green	0.64	0.64	0.00	0.00	0.64	0.64				0.14	0.00	0.14
Sat Flow, veh/h	1065	3647	0	485	3554	1585				1781	0	3170
Grp Volume(v), veh/h	137	1158	0	0	1011	16				53	0	160
Grp Sat Flow(s),veh/h/ln	533	1777	0	485	1777	1585				1781	0	1585
Q Serve(g_s), s	2.8	6.5	0.0	0.0	5.4	0.1				1.0	0.0	1.7
Cycle Q Clear(g_c), s	8.1	6.5	0.0	0.0	5.4	0.1				1.0	0.0	1.7
Prop In Lane	1.00		0.00	1.00		1.00				1.00		1.00
Lane Grp Cap(c), veh/h	916	2286	0	191	2286	1020				258	0	459
V/C Ratio(X)	0.15	0.51	0.00	0.00	0.44	0.02				0.21	0.00	0.35
Avail Cap(c_a), veh/h	1952	5742	0	663	5742	2561				1463	0	2603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	5.4	3.6	0.0	0.0	3.4	2.4				14.2	0.0	14.5
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.1	0.0				0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.2	0.0	0.0	0.2	0.0				0.4	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	3.7	0.0	0.0	3.5	2.4				14.6	0.0	15.0
LnGrp LOS	A	A	A	A	A	A				B	A	B
Approach Vol, veh/h		1295			1027						213	
Approach Delay, s/veh		3.9			3.5						14.9	
Approach LOS		A			A						B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	28.3	28.3	9.5
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	60.0	60.0	30.0
Max Q Clear Time (g_c+I1), s	7.4	10.1	3.7
Green Ext Time (p_c), s	8.3	13.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	4.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	1430	480	210	1320	130	480	190	150	50	130	30
Future Volume (veh/h)	100	1430	480	210	1320	130	480	190	150	50	130	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	1505	421	221	1389	126	505	200	111	53	137	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	1833	1055	204	1865	168	494	407	514	68	174	32
Arrive On Green	0.06	0.52	0.52	0.11	0.57	0.56	0.14	0.22	0.21	0.04	0.11	0.11
Sat Flow, veh/h	1781	3554	1585	1781	3296	298	3456	1870	1585	1781	1539	281
Grp Volume(v), veh/h	105	1505	421	221	746	769	505	200	111	53	0	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1817	1728	1870	1585	1781	0	1820
Q Serve(g_s), s	8.2	49.8	16.9	16.0	44.0	44.7	20.0	13.1	7.1	4.1	0.0	12.1
Cycle Q Clear(g_c), s	8.2	49.8	16.9	16.0	44.0	44.7	20.0	13.1	7.1	4.1	0.0	12.1
Prop In Lane	1.00		1.00	1.00		0.16	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	115	1833	1055	204	1005	1028	494	407	514	68	0	205
V/C Ratio(X)	0.92	0.82	0.40	1.09	0.74	0.75	1.02	0.49	0.22	0.78	0.00	0.79
Avail Cap(c_a), veh/h	115	1833	1055	204	1005	1028	494	548	634	115	0	390
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	65.1	28.5	10.7	62.0	22.8	23.0	60.0	48.0	34.3	66.7	0.0	60.5
Incr Delay (d2), s/veh	58.7	4.3	1.1	85.5	4.6	4.7	46.5	0.9	0.2	16.9	0.0	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	21.0	6.0	11.9	18.4	19.2	11.9	6.2	2.8	2.2	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.8	32.8	11.8	147.5	27.4	27.6	106.5	48.9	34.5	83.7	0.0	67.2
LnGrp LOS	F	C	B	F	C	C	F	D	C	F	A	E
Approach Vol, veh/h		2031			1736			816			215	
Approach Delay, s/veh		33.1			42.8			82.6			71.2	
Approach LOS		C			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	76.2	24.0	19.8	13.0	83.2	9.4	34.4
Change Period (Y+Rc), s	4.0	* 5	4.0	5.0	4.0	* 5	4.0	5.0
Max Green Setting (Gmax), s	16.0	* 57	20.0	29.0	9.0	* 64	9.0	40.0
Max Q Clear Time (g_c+I1), s	18.0	51.8	22.0	14.1	10.2	46.7	6.1	15.1
Green Ext Time (p_c), s	0.0	4.2	0.0	0.7	0.0	9.3	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	46.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	350	130	30	510	90	450	700	210	60	370	120
Future Volume (veh/h)	150	350	130	30	510	90	450	700	210	60	370	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	368	92	32	537	11	474	737	196	63	389	99
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	865	214	59	854	381	403	1066	283	89	584	147
Arrive On Green	0.10	0.31	0.29	0.03	0.24	0.24	0.23	0.38	0.37	0.05	0.21	0.19
Sat Flow, veh/h	1781	2824	698	1781	3554	1585	1781	2776	738	1781	2812	708
Grp Volume(v), veh/h	158	230	230	32	537	11	474	472	461	63	244	244
Grp Sat Flow(s),veh/h/ln	1781	1777	1745	1781	1777	1585	1781	1777	1737	1781	1777	1743
Q Serve(g_s), s	6.2	7.3	7.5	1.2	9.6	0.4	16.0	15.7	15.8	2.5	8.9	9.1
Cycle Q Clear(g_c), s	6.2	7.3	7.5	1.2	9.6	0.4	16.0	15.7	15.8	2.5	8.9	9.1
Prop In Lane	1.00		0.40	1.00		1.00	1.00		0.42	1.00		0.41
Lane Grp Cap(c), veh/h	177	544	535	59	854	381	403	682	667	89	369	362
V/C Ratio(X)	0.90	0.42	0.43	0.54	0.63	0.03	1.17	0.69	0.69	0.70	0.66	0.67
Avail Cap(c_a), veh/h	177	805	790	151	1560	696	403	931	910	227	755	740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	19.5	19.7	33.6	24.0	20.5	27.3	18.3	18.4	33.0	25.7	26.0
Incr Delay (d2), s/veh	38.6	0.5	0.5	2.9	1.1	0.0	101.8	1.9	1.9	3.7	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.8	2.8	0.6	3.8	0.1	17.6	6.0	5.9	1.1	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	20.0	20.3	36.5	25.1	20.6	129.1	20.1	20.3	36.8	27.7	28.2
LnGrp LOS	E	C	C	D	C	C	F	C	C	D	C	C
Approach Vol, veh/h		618			580			1407			551	
Approach Delay, s/veh		32.9			25.7			56.9			29.0	
Approach LOS		C			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.3	25.6	20.0	18.7	11.0	21.0	7.5	31.1
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	6.3	31.0	16.0	29.0	7.0	30.0	9.0	36.0
Max Q Clear Time (g_c+I1), s	13.2	9.5	18.0	11.1	8.2	11.6	4.5	17.8
Green Ext Time (p_c), s	0.0	2.5	0.0	2.5	0.0	4.4	0.0	7.6

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	930	640	120	710	90	430	160	50	170	490	260
Future Volume (veh/h)	260	930	640	120	710	90	430	160	50	170	490	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	274	979	557	126	747	84	453	168	29	179	516	206
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	298	944	520	1198	3032	341	471	384	66	208	542	215
Arrive On Green	0.33	0.85	0.84	0.22	0.31	0.31	0.14	0.25	0.24	0.12	0.22	0.21
Sat Flow, veh/h	1781	2210	1218	1781	3220	362	3456	1554	268	1781	2483	987
Grp Volume(v), veh/h	274	781	755	126	412	419	453	0	197	179	369	353
Grp Sat Flow(s),veh/h/ln	1781	1777	1651	1781	1777	1805	1728	0	1822	1781	1777	1693
Q Serve(g_s), s	16.3	47.0	47.0	6.2	19.0	19.1	14.3	0.0	10.1	10.9	22.5	22.7
Cycle Q Clear(g_c), s	16.3	47.0	47.0	6.2	19.0	19.1	14.3	0.0	10.1	10.9	22.5	22.7
Prop In Lane	1.00		0.74	1.00		0.20	1.00		0.15	1.00		0.58
Lane Grp Cap(c), veh/h	298	759	705	1198	1673	1700	471	0	450	208	388	369
V/C Ratio(X)	0.92	1.03	1.07	0.11	0.25	0.25	0.96	0.00	0.44	0.86	0.95	0.96
Avail Cap(c_a), veh/h	356	759	705	1198	1673	1700	471	0	450	243	388	369
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.73	0.73	0.96	0.96	0.96	1.00	0.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	35.9	8.0	8.7	16.4	8.8	8.8	47.2	0.0	35.0	47.7	42.4	42.8
Incr Delay (d2), s/veh	18.9	35.4	49.7	0.0	0.3	0.3	31.4	0.0	0.7	18.5	30.4	32.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	10.7	13.0	2.5	5.4	5.7	8.1	0.0	4.5	5.8	12.8	12.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	43.4	58.5	16.4	9.1	9.1	78.6	0.0	35.7	66.2	72.8	75.5
LnGrp LOS	D	F	F	B	A	A	E	A	D	E	E	E
Approach Vol, veh/h		1810			957			650			901	
Approach Delay, s/veh		51.4			10.1			65.6			72.5	
Approach LOS		D			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	51.0	20.0	28.0	22.4	109.6	16.8	31.2
Change Period (Y+Rc), s	5.0	* 5	5.0	* 5	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.0	* 46	15.0	* 23	22.0	32.0	15.0	23.0
Max Q Clear Time (g_c+I1), s	18.3	49.0	16.3	24.7	18.3	21.1	12.9	12.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.2	5.0	0.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	48.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	360	900	100	220	780	100	110	500	100	110	830	230
Future Volume (veh/h)	360	900	100	220	780	100	110	500	100	110	830	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	947	93	232	821	37	116	526	33	116	874	190
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	1337	131	292	1195	770	141	687	426	282	1001	667
Arrive On Green	0.15	0.41	0.40	0.08	0.34	0.33	0.16	0.39	0.37	0.16	0.28	0.27
Sat Flow, veh/h	3456	3268	321	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	379	515	525	232	821	37	116	526	33	116	874	190
Grp Sat Flow(s),veh/h/ln	1728	1777	1813	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	11.5	26.5	26.5	7.2	21.9	0.0	6.9	14.2	0.8	6.4	25.8	1.7
Cycle Q Clear(g_c), s	11.5	26.5	26.5	7.2	21.9	0.0	6.9	14.2	0.8	6.4	25.8	1.7
Prop In Lane	1.00		0.18	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	512	727	742	292	1195	770	141	687	426	282	1001	667
V/C Ratio(X)	0.74	0.71	0.71	0.79	0.69	0.05	0.82	0.77	0.08	0.41	0.87	0.28
Avail Cap(c_a), veh/h	512	727	742	314	1195	770	162	1034	581	282	1034	682
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	27.0	27.1	49.4	31.5	14.9	45.6	31.5	10.4	41.7	37.6	9.5
Incr Delay (d2), s/veh	5.6	5.8	5.6	12.4	3.2	0.1	24.5	2.6	0.1	1.0	8.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	12.3	12.6	3.6	9.7	0.5	3.8	5.1	0.3	2.9	12.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	32.8	32.8	61.8	34.7	15.0	70.1	34.1	10.5	42.6	46.1	9.8
LnGrp LOS	D	C	C	E	C	B	E	C	B	D	D	A
Approach Vol, veh/h		1419			1090			675			1180	
Approach Delay, s/veh		37.5			39.8			39.1			39.9	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	49.0	12.7	35.0	21.3	41.0	22.4	25.3
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	5.0	* 5	5.0	* 5
Max Green Setting (Gmax), s	10.0	41.0	10.0	31.0	15.0	* 36	10.0	* 31
Max Q Clear Time (g_c+I1), s	9.2	28.5	8.9	27.8	13.5	23.9	8.4	16.2
Green Ext Time (p_c), s	0.1	8.4	0.0	2.2	0.2	6.8	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	39.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	390	210	60	440	390	60	280	80	550	950	160
Future Volume (veh/h)	130	390	210	60	440	390	60	280	80	550	950	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	411	192	63	463	370	63	295	23	579	1000	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	1110	554	81	1102	1034	83	461	262	626	1321	194
Arrive On Green	0.06	0.31	0.30	0.05	0.31	0.30	0.05	0.13	0.12	0.35	0.42	0.42
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3554	1585	1781	3108	457
Grp Volume(v), veh/h	137	411	192	63	463	370	63	295	23	579	571	576
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1788
Q Serve(g_s), s	4.1	9.5	4.5	3.7	10.9	11.2	3.7	8.3	0.6	33.0	28.8	28.9
Cycle Q Clear(g_c), s	4.1	9.5	4.5	3.7	10.9	11.2	3.7	8.3	0.6	33.0	28.8	28.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	198	1110	554	81	1102	1034	83	461	262	626	755	760
V/C Ratio(X)	0.69	0.37	0.35	0.78	0.42	0.36	0.76	0.64	0.09	0.92	0.76	0.76
Avail Cap(c_a), veh/h	294	1110	554	84	1102	1034	169	1076	537	742	1110	1117
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	28.2	25.4	49.9	28.9	8.3	49.7	43.6	14.7	32.9	25.7	25.9
Incr Delay (d2), s/veh	1.6	1.0	1.7	31.7	1.2	1.0	5.1	2.1	0.2	16.5	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.0	3.7	2.3	4.6	3.5	1.7	3.7	0.3	16.3	11.9	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	29.2	27.1	81.6	30.1	9.3	54.8	45.8	14.9	49.4	28.1	28.3
LnGrp LOS	D	C	C	F	C	A	D	D	B	D	C	C
Approach Vol, veh/h		740			896			381			1726	
Approach Delay, s/veh		32.6			25.1			45.4			35.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.8	37.0	9.9	48.9	10.1	36.7	41.1	17.7
Change Period (Y+Rc), s	5.0	* 5	* 5	* 5	4.0	5.0	4.0	* 5
Max Green Setting (Gmax), s	5.8	* 32	* 10	* 65	9.0	28.0	44.0	* 31
Max Q Clear Time (g_c+I1), s	15.7	11.5	5.7	30.9	6.1	13.2	35.0	10.3
Green Ext Time (p_c), s	0.0	4.3	0.0	13.0	0.1	5.1	2.2	2.4

Intersection Summary	
HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	760	330	30	890	40	150	120	10	120	290	60
Future Volume (veh/h)	80	760	330	30	890	40	150	120	10	120	290	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	800	296	32	937	40	158	126	8	126	305	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	993	367	40	1228	52	187	242	15	643	1059	141
Arrive On Green	0.06	0.39	0.38	0.02	0.35	0.34	0.11	0.07	0.06	0.72	0.67	0.65
Sat Flow, veh/h	1781	2540	939	1781	3472	148	1781	3395	214	1781	3152	420
Grp Volume(v), veh/h	84	559	537	32	479	498	158	65	69	126	171	175
Grp Sat Flow(s),veh/h/ln	1781	1777	1701	1781	1777	1844	1781	1777	1832	1781	1777	1795
Q Serve(g_s), s	5.1	30.8	30.9	2.0	26.3	26.3	9.6	3.9	4.0	2.5	4.3	4.4
Cycle Q Clear(g_c), s	5.1	30.8	30.9	2.0	26.3	26.3	9.6	3.9	4.0	2.5	4.3	4.4
Prop In Lane	1.00		0.55	1.00		0.08	1.00		0.12	1.00		0.23
Lane Grp Cap(c), veh/h	107	695	665	40	628	652	187	127	130	643	597	603
V/C Ratio(X)	0.79	0.81	0.81	0.80	0.76	0.76	0.84	0.52	0.53	0.20	0.29	0.29
Avail Cap(c_a), veh/h	146	695	665	65	628	652	243	517	533	643	597	603
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	51.0	29.8	30.1	53.5	31.5	31.5	48.3	49.3	49.3	10.1	12.7	12.9
Incr Delay (d2), s/veh	12.3	9.7	10.1	12.5	8.6	8.3	15.3	14.3	14.3	0.1	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	14.1	13.7	1.0	12.1	12.5	4.9	2.2	2.3	0.9	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	39.4	40.2	66.1	40.0	39.8	63.7	63.6	63.7	10.2	13.8	14.0
LnGrp LOS	E	D	D	E	D	D	E	E	E	B	B	B
Approach Vol, veh/h		1180			1009			292			472	
Approach Delay, s/veh		41.5			40.7			63.7			12.9	
Approach LOS		D			D			E			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	47.0	15.6	41.0	10.6	42.9	44.7	11.8
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	5.0	* 5
Max Green Setting (Gmax), s	4.0	42.0	15.0	31.0	9.0	37.0	15.0	* 31
Max Q Clear Time (g_c+I1), s	4.0	32.9	11.6	6.4	7.1	28.3	4.5	6.0
Green Ext Time (p_c), s	0.0	5.5	0.1	2.6	0.0	4.7	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	990	70	190	1050	40	90	320	100	70	580	240
Future Volume (veh/h)	320	990	70	190	1050	40	90	320	100	70	580	240
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	1042	0	200	1105	0	95	337	-34	74	611	182
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	269	1929		523	2361		99	813	362	95	805	465
Arrive On Green	0.08	0.38	0.00	0.15	0.46	0.00	0.06	0.23	0.00	0.05	0.23	0.22
Sat Flow, veh/h	3456	5274	0	3456	5274	0	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	337	1042	0	200	1105	0	95	337	-34	74	611	182
Grp Sat Flow(s),veh/h/ln	1728	1702	0	1728	1702	0	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.0	14.4	0.0	4.7	13.4	0.0	4.8	7.3	0.0	3.7	14.5	8.3
Cycle Q Clear(g_c), s	7.0	14.4	0.0	4.7	13.4	0.0	4.8	7.3	0.0	3.7	14.5	8.3
Prop In Lane	1.00		0.00	1.00		0.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	269	1929		523	2361		99	813	362	95	805	465
V/C Ratio(X)	1.25	0.54		0.38	0.47		0.96	0.41	-0.09	0.78	0.76	0.39
Avail Cap(c_a), veh/h	269	1929		523	2361		99	1027	458	99	1027	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.00	0.96	0.96	0.00	0.97	0.97	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	21.9	0.0	34.4	16.6	0.0	42.4	29.6	0.0	42.1	32.5	25.4
Incr Delay (d2), s/veh	135.9	0.9	0.0	0.2	0.6	0.0	75.5	0.3	0.0	28.0	2.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	5.4	0.0	1.9	4.8	0.0	4.1	3.0	0.0	2.3	6.2	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	177.4	22.7	0.0	34.6	17.2	0.0	117.9	29.9	0.0	70.1	35.0	25.9
LnGrp LOS	F	C		C	B		F	C	A	E	D	C
Approach Vol, veh/h		1379	A		1305	A		398			867	
Approach Delay, s/veh		60.5			19.9			53.5			36.1	
Approach LOS		E			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.6	38.0	9.0	24.4	11.0	45.6	8.8	24.6
Change Period (Y+Rc), s	5.0	* 5	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	9.6	* 33	5.0	25.0	7.0	35.0	5.0	25.0
Max Q Clear Time (g_c+I1), s	10.7	16.4	6.8	16.5	9.0	15.4	5.7	9.3
Green Ext Time (p_c), s	0.1	8.1	0.0	2.9	0.0	9.5	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1570	520	180	1230	0	0
Future Volume (veh/h)	1570	520	180	1230	0	0
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870		
Adj Flow Rate, veh/h	1653	513	189	1295		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2		
Cap, veh/h	1968	580	227	3295		
Arrive On Green	1.00	1.00	0.25	1.00		
Sat Flow, veh/h	2800	798	1781	3647		
Grp Volume(v), veh/h	1055	1111	189	1295		
Grp Sat Flow(s),veh/h/ln	1777	1727	1781	1777		
Q Serve(g_s), s	0.0	0.0	5.5	0.0		
Cycle Q Clear(g_c), s	0.0	0.0	5.5	0.0		
Prop In Lane		0.46	1.00			
Lane Grp Cap(c), veh/h	1292	1256	227	3295		
V/C Ratio(X)	0.82	0.88	0.83	0.39		
Avail Cap(c_a), veh/h	1292	1256	227	3295		
HCM Platoon Ratio	2.00	2.00	2.00	2.00		
Upstream Filter(I)	0.56	0.56	0.47	0.47		
Uniform Delay (d), s/veh	0.0	0.0	19.9	0.0		
Incr Delay (d2), s/veh	3.3	5.6	11.9	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.9	2.5	0.1		
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	3.3	5.6	31.9	0.2		
LnGrp LOS	A	A	C	A		
Approach Vol, veh/h	2166			1484		
Approach Delay, s/veh	4.5			4.2		
Approach LOS	A			A		

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	11.0	44.0				55.0
Change Period (Y+Rc), s	4.0	4.5				4.5
Max Green Setting (Gmax), s	7.0	39.5				50.5
Max Q Clear Time (g_c+I1), s	7.5	2.0				2.0
Green Ext Time (p_c), s	0.0	16.1				6.9

Intersection Summary		
HCM 6th Ctrl Delay	4.4	
HCM 6th LOS	A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	960	0	0	780	40	700	60	370	80	0	140
Future Volume (veh/h)	90	960	0	0	780	40	700	60	370	80	0	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	1870	0	1870
Adj Flow Rate, veh/h	95	1011	0	0	821	42	737	63	389	84	0	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	2	0	2
Cap, veh/h	381	1971	0	0	1032	53	1822	408	346	552	0	0
Arrive On Green	0.43	1.00	0.00	0.00	0.60	0.59	0.53	0.22	0.22	0.27	0.00	0.01
Sat Flow, veh/h	1781	3647	0	0	3533	176	3456	1870	1585	1781	84	
Grp Volume(v), veh/h	95	1011	0	0	424	439	737	63	389	84	31.0	
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1839	1728	1870	1585	1781	C	
Q Serve(g_s), s	3.8	0.0	0.0	0.0	20.1	20.1	14.1	3.0	24.0	4.0		
Cycle Q Clear(g_c), s	3.8	0.0	0.0	0.0	20.1	20.1	14.1	3.0	24.0	4.0		
Prop In Lane	1.00		0.00	0.00		0.10	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	381	1971	0	0	533	552	1822	408	346	552		
V/C Ratio(X)	0.25	0.51	0.00	0.00	0.80	0.80	0.40	0.15	1.12	0.15		
Avail Cap(c_a), veh/h	381	1971	0	0	533	552	1822	408	346	552		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.96	0.96	0.00	0.00	0.96	0.96	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	25.8	0.0	0.0	0.0	19.4	19.5	15.6	34.8	43.0	30.5		
Incr Delay (d2), s/veh	1.5	0.9	0.0	0.0	11.2	10.9	0.7	0.1	86.6	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.6	0.3	0.0	0.0	6.7	6.9	5.6	1.4	17.6	1.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.4	0.9	0.0	0.0	30.7	30.4	16.3	34.9	129.6	31.0		
LnGrp LOS	C	A	A	A	C	C	B	C	F	C		
Approach Vol, veh/h		1106			863			1189				
Approach Delay, s/veh		3.2			30.5			54.3				
Approach LOS		A			C			D				

Timer - Assigned Phs		2	3		5	6	7	8				
Phs Duration (G+Y+Rc), s		65.5	62.0		28.5	37.0	34.0	28.0				
Change Period (Y+Rc), s		4.5	4.0		4.5	* 4.5	4.0	5.5				
Max Green Setting (Gmax), s		43.5	24.0		7.0	* 33	30.0	22.5				
Max Q Clear Time (g_c+I1), s		2.0	16.1		5.8	22.1	6.0	26.0				
Green Ext Time (p_c), s		4.8	1.1		0.0	2.4	0.2	0.0				

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1950	540	310	1010	0	0	0	0	480	40	1230
Future Volume (veh/h)	0	1950	540	310	1010	0	0	0	0	480	40	1230
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	2053	568	326	1063	0				535	0	1295
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	1914	522	826	3404	0				1130	0	1005
Arrive On Green	0.00	0.12	0.12	0.24	0.67	0.00				0.43	0.00	0.43
Sat Flow, veh/h	0	5329	1381	3456	5274	0				2607	0	2319
Grp Volume(v), veh/h	0	1954	667	326	1063	0				535	0	1295
Grp Sat Flow(s),veh/h/ln	0	1609	1622	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	34.0	34.0	7.1	7.9	0.0				13.2	0.0	39.0
Cycle Q Clear(g_c), s	0.0	34.0	34.0	7.1	7.9	0.0				13.2	0.0	39.0
Prop In Lane	0.00		0.85	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1823	613	826	3404	0				1130	0	1005
V/C Ratio(X)	0.00	1.07	1.09	0.39	0.31	0.00				0.47	0.00	1.29
Avail Cap(c_a), veh/h	0	1823	613	826	3404	0				1130	0	1005
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.4	39.5	28.8	6.3	0.0				18.2	0.0	25.5
Incr Delay (d2), s/veh	0.0	41.3	59.1	0.4	0.2	0.0				0.3	0.0	137.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	21.3	24.6	2.8	2.2	0.0				3.7	0.0	28.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	80.7	98.6	29.2	6.6	0.0				18.5	0.0	162.8
LnGrp LOS	A	F	F	C	A	A				B	A	F
Approach Vol, veh/h		2621			1389						1830	
Approach Delay, s/veh		85.2			11.9						120.6	
Approach LOS		F			B						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	26.5	38.0		43.0		64.5
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	5.0	* 34		38.0		42.5
Max Q Clear Time (g_c+I1), s	9.1	36.0		41.0		9.9
Green Ext Time (p_c), s	0.0	0.0		0.0		5.0

Intersection Summary	
HCM 6th Ctrl Delay	78.9
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1190	1240	0	1660	180	460
Future Volume (veh/h)	1190	1240	0	1660	180	460
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1253	0	0	1747	189	438
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	3094		0	3899	1055	484
Arrive On Green	0.61	0.00	0.00	0.61	0.31	0.31
Sat Flow, veh/h	5443	0	0	6958	3456	1585
Grp Volume(v), veh/h	1253	0	0	1747	189	438
Grp Sat Flow(s),veh/h/ln	1702	0	0	1609	1728	1585
Q Serve(g_s), s	11.5	0.0	0.0	13.2	3.6	23.9
Cycle Q Clear(g_c), s	11.5	0.0	0.0	13.2	3.6	23.9
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3094		0	3899	1055	484
V/C Ratio(X)	0.40		0.00	0.45	0.18	0.91
Avail Cap(c_a), veh/h	3094		0	3899	1190	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	0.0	0.0	9.6	23.0	30.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	16.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	3.9	1.4	10.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.7	0.0	0.0	10.0	23.0	46.4
LnGrp LOS	A		A	A	C	D
Approach Vol, veh/h	1253	A		1747	627	
Approach Delay, s/veh	9.7			10.0	39.3	
Approach LOS	A			A	D	

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	58.5			58.5	31.5
Change Period (Y+Rc), s	4.5			4.5	5.0
Max Green Setting (Gmax), s	50.5			50.5	30.0
Max Q Clear Time (g_c+I1), s	13.5			15.2	25.9
Green Ext Time (p_c), s	6.3			10.3	0.6

Intersection Summary		
HCM 6th Ctrl Delay	14.9	
HCM 6th LOS	B	

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	1620	250	340	1200	110	240	190	170	520	270	110
Future Volume (veh/h)	250	1620	250	340	1200	110	240	190	170	520	270	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	1705	217	358	1263	109	253	200	0	547	284	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	478	2465	765	370	1504	130	303	246		568	389	330
Arrive On Green	0.27	0.48	0.48	0.11	0.31	0.31	0.09	0.13	0.00	0.16	0.21	0.21
Sat Flow, veh/h	1781	5106	1585	3456	4787	413	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	263	1705	217	358	898	474	253	200	0	547	284	23
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1728	1702	1796	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	17.7	36.3	11.5	14.4	34.4	34.4	10.1	14.6	0.0	22.0	19.8	0.9
Cycle Q Clear(g_c), s	17.7	36.3	11.5	14.4	34.4	34.4	10.1	14.6	0.0	22.0	19.8	0.9
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	478	2465	765	370	1070	564	303	246		568	389	330
V/C Ratio(X)	0.55	0.69	0.28	0.97	0.84	0.84	0.84	0.81		0.96	0.73	0.07
Avail Cap(c_a), veh/h	478	2465	765	370	1070	564	395	481		568	574	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	44.0	28.1	21.7	62.3	44.7	44.8	62.9	59.1	0.0	58.1	51.7	14.0
Incr Delay (d2), s/veh	0.8	1.6	0.9	37.7	7.9	14.0	9.0	6.3	0.0	23.1	1.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	14.5	4.4	8.2	15.3	17.1	4.7	7.2	0.0	11.3	9.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.7	29.7	22.6	100.0	52.6	58.8	71.9	65.4	0.0	81.1	53.6	14.1
LnGrp LOS	D	C	C	F	D	E	E	E		F	D	B
Approach Vol, veh/h		2185			1730			453	A		854	
Approach Delay, s/veh		30.8			64.1			69.1			70.2	
Approach LOS		C			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	71.6	16.3	33.2	42.6	48.0	27.0	22.4
Change Period (Y+Rc), s	* 4	5.0	* 4	5.0	5.0	* 5	* 4	5.0
Max Green Setting (Gmax), s	* 15	49.0	* 16	42.0	21.0	* 43	* 23	35.0
Max Q Clear Time (g_c+I1), s	16.4	38.3	12.1	21.8	19.7	36.4	24.0	16.6
Green Ext Time (p_c), s	0.0	9.0	0.2	1.5	0.1	4.9	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2470	630	40	1810	0	0	0	0	410	30	480
Future Volume (veh/h)	0	2470	630	40	1810	0	0	0	0	410	30	480
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	2600	391	42	1905	0				432	32	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2883	895	89	3309	0				475	35	
Arrive On Green	0.00	0.56	0.56	0.05	0.65	0.00				0.29	0.29	0.00
Sat Flow, veh/h	0	5274	1585	1781	5274	0				1664	123	2790
Grp Volume(v), veh/h	0	2600	391	42	1905	0				464	0	0
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1781	1702	0				1787	0	1395
Q Serve(g_s), s	0.0	54.2	17.1	2.8	25.1	0.0				30.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	54.2	17.1	2.8	25.1	0.0				30.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				0.93		1.00
Lane Grp Cap(c), veh/h	0	2883	895	89	3309	0				510	0	
V/C Ratio(X)	0.00	0.90	0.44	0.47	0.58	0.00				0.91	0.00	
Avail Cap(c_a), veh/h	0	2883	895	89	3309	0				536	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.74	0.74	0.64	0.64	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	23.2	15.1	55.5	11.9	0.0				41.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.9	1.1	2.5	0.5	0.0				19.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	20.4	6.0	1.3	8.4	0.0				15.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	27.1	16.2	57.9	12.3	0.0				60.5	0.0	0.0
LnGrp LOS	A	C	B	E	B	A				E	A	
Approach Vol, veh/h		2991			1947						464	A
Approach Delay, s/veh		25.7			13.3						60.5	
Approach LOS		C			B						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.0	71.8		38.2		81.8
Change Period (Y+Rc), s	5.0	5.0		5.5		5.0
Max Green Setting (Gmax), s	5.0	65.0		34.5		75.0
Max Q Clear Time (g_c+I1), s	4.8	56.2		32.1		27.1
Green Ext Time (p_c), s	0.0	7.5		0.7		12.7

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	650	2230	0	0	910	660	940	0	70	0	0	0
Future Volume (veh/h)	650	2230	0	0	910	660	940	0	70	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	684	2347	0	0	958	427	1054	0	0			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	806	2221	0	0	1830	568	1098	577				
Arrive On Green	0.47	1.00	0.00	0.00	0.36	0.36	0.31	0.00	0.00			
Sat Flow, veh/h	3456	3647	0	0	5274	1585	3563	1870	0			
Grp Volume(v), veh/h	684	2347	0	0	958	427	1054	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1777	0	0	1702	1585	1781	1870	0			
Q Serve(g_s), s	21.0	0.0	0.0	0.0	17.8	28.4	34.9	0.0	0.0			
Cycle Q Clear(g_c), s	21.0	0.0	0.0	0.0	17.8	28.4	34.9	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		0.00			
Lane Grp Cap(c), veh/h	806	2221	0	0	1830	568	1098	577				
V/C Ratio(X)	0.85	1.06	0.00	0.00	0.52	0.75	0.96	0.00				
Avail Cap(c_a), veh/h	806	2221	0	0	1830	568	1098	577				
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.28	0.28	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	30.1	0.0	0.0	0.0	30.4	33.8	40.8	0.0	0.0			
Incr Delay (d2), s/veh	2.6	29.2	0.0	0.0	1.1	8.9	18.2	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.3	9.0	0.0	0.0	7.2	11.8	17.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	29.2	0.0	0.0	31.5	42.7	59.0	0.0	0.0			
LnGrp LOS	C	F	A	A	C	D	E	A				
Approach Vol, veh/h		3031			1385			1054	A			
Approach Delay, s/veh		30.0			34.9			59.0				
Approach LOS		C			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		79.0			32.0	47.0		41.0				
Change Period (Y+Rc), s		5.0			5.0	5.0		5.5				
Max Green Setting (Gmax), s		74.0			27.0	42.0		35.5				
Max Q Clear Time (g_c+I1), s		2.0			23.0	30.4		36.9				
Green Ext Time (p_c), s		24.4			1.1	4.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	1500	60	70	1010	110	70	140	100	540	270	160
Future Volume (veh/h)	90	1500	60	70	1010	110	70	140	100	540	270	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	1579	60	74	1063	105	74	147	47	568	284	49
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1851	70	81	1732	171	95	249	77	641	351	60
Arrive On Green	0.03	0.36	0.35	0.05	0.53	0.52	0.05	0.09	0.08	0.19	0.23	0.23
Sat Flow, veh/h	1781	3491	132	1781	3267	322	1781	2673	826	3456	1554	268
Grp Volume(v), veh/h	95	801	838	74	578	590	74	96	98	568	0	333
Grp Sat Flow(s),veh/h/ln	1781	1777	1847	1781	1777	1812	1781	1777	1722	1728	0	1822
Q Serve(g_s), s	5.0	45.8	46.2	4.6	24.9	25.0	4.5	5.7	6.0	17.6	0.0	19.0
Cycle Q Clear(g_c), s	5.0	45.8	46.2	4.6	24.9	25.0	4.5	5.7	6.0	17.6	0.0	19.0
Prop In Lane	1.00		0.07	1.00		0.18	1.00		0.48	1.00		0.15
Lane Grp Cap(c), veh/h	81	942	979	81	942	961	95	166	160	641	0	411
V/C Ratio(X)	1.17	0.85	0.86	0.91	0.61	0.61	0.78	0.58	0.61	0.89	0.00	0.81
Avail Cap(c_a), veh/h	81	942	979	81	942	961	162	452	438	880	0	762
HCM Platoon Ratio	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.00	0.99
Uniform Delay (d), s/veh	53.3	31.4	31.6	52.3	18.0	18.1	51.4	47.8	48.2	43.7	0.0	40.4
Incr Delay (d2), s/veh	145.7	8.1	8.1	70.5	3.0	2.9	5.2	4.5	5.3	6.6	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	22.0	23.1	3.6	10.0	10.3	2.1	2.7	2.8	7.8	0.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	199.0	39.6	39.7	122.8	21.0	21.0	56.6	52.3	53.5	50.3	0.0	45.7
LnGrp LOS	F	D	D	F	C	C	E	D	D	D	A	D
Approach Vol, veh/h		1734			1242			268			901	
Approach Delay, s/veh		48.4			27.0			53.9			48.6	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	62.3	9.9	28.8	9.0	62.3	24.4	14.3
Change Period (Y+Rc), s	4.0	* 5	4.0	* 5	4.0	* 5	4.0	* 5
Max Green Setting (Gmax), s	5.0	* 32	10.0	* 45	5.0	* 32	28.0	* 27
Max Q Clear Time (g_c+I1), s	6.6	48.2	6.5	21.0	7.0	27.0	19.6	8.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.6	0.0	3.5	0.8	1.2

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	870	1050	280	880	0	0	0	0	330	40	850
Future Volume (veh/h)	0	870	1050	280	880	0	0	0	0	330	40	850
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	916	881	295	926	0				347	42	736
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	724	623	227	2003	0				581	70	576
Arrive On Green	0.00	0.40	0.39	0.25	1.00	0.00				0.36	0.36	0.36
Sat Flow, veh/h	0	1903	1557	1781	3647	0				1597	193	1585
Grp Volume(v), veh/h	0	897	900	295	926	0				389	0	736
Grp Sat Flow(s),veh/h/ln	0	1777	1590	1781	1777	0				1791	0	1585
Q Serve(g_s), s	0.0	44.0	44.0	14.0	0.0	0.0				19.4	0.0	40.0
Cycle Q Clear(g_c), s	0.0	44.0	44.0	14.0	0.0	0.0				19.4	0.0	40.0
Prop In Lane	0.00		0.98	1.00		0.00				0.89		1.00
Lane Grp Cap(c), veh/h	0	711	636	227	2003	0				651	0	576
V/C Ratio(X)	0.00	1.26	1.41	1.30	0.46	0.00				0.60	0.00	1.28
Avail Cap(c_a), veh/h	0	711	636	227	2003	0				651	0	576
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.58	0.58	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	33.0	33.5	41.0	0.0	0.0				28.5	0.0	35.0
Incr Delay (d2), s/veh	0.0	129.3	195.7	153.2	0.4	0.0				1.1	0.0	137.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	43.3	50.6	14.8	0.1	0.0				8.2	0.0	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	162.3	229.2	194.2	0.4	0.0				29.5	0.0	172.7
LnGrp LOS	A	F	F	F	A	A				C	A	F
Approach Vol, veh/h		1797			1221						1125	
Approach Delay, s/veh		195.8			47.2						123.2	
Approach LOS		F			D						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.0	48.0		44.0		66.0
Change Period (Y+Rc), s	4.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	14.0	43.0		39.0		61.0
Max Q Clear Time (g_c+I1), s	16.0	46.0		42.0		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		4.8

Intersection Summary	
HCM 6th Ctrl Delay	132.3
HCM 6th LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	940	0	0	610	440	550	10	130	0	0	0
Future Volume (veh/h)	260	940	0	0	610	440	550	10	130	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1900	1870	1900			
Adj Flow Rate, veh/h	274	989	0	0	642	429	579	11	134			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	0	2	0			
Cap, veh/h	578	1163	0	0	835	557	545	10	126			
Arrive On Green	0.33	1.00	0.00	0.00	0.41	0.40	0.39	0.39	0.38			
Sat Flow, veh/h	3456	1870	0	0	2134	1362	1394	26	323			
Grp Volume(v), veh/h	274	989	0	0	559	512	724	0	0			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1625	1743	0	0			
Q Serve(g_s), s	6.9	0.0	0.0	0.0	29.8	30.0	43.0	0.0	0.0			
Cycle Q Clear(g_c), s	6.9	0.0	0.0	0.0	29.8	30.0	43.0	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.84	0.80		0.19			
Lane Grp Cap(c), veh/h	578	1163	0	0	727	665	681	0	0			
V/C Ratio(X)	0.47	0.85	0.00	0.00	0.77	0.77	1.06	0.00	0.00			
Avail Cap(c_a), veh/h	578	1163	0	0	727	665	681	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	32.8	0.0	0.0	0.0	28.0	28.4	33.6	0.0	0.0			
Incr Delay (d2), s/veh	0.1	0.8	0.0	0.0	7.7	8.4	52.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.6	0.3	0.0	0.0	13.7	12.8	27.0	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.8	0.0	0.0	35.7	36.8	86.0	0.0	0.0			
LnGrp LOS	C	A	A	A	D	D	F	A	A			
Approach Vol, veh/h		1263			1071			724				
Approach Delay, s/veh		7.7			36.2			86.0				
Approach LOS		A			D			F				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		72.4			23.4	49.0		47.0				
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0				
Max Green Setting (Gmax), s		58.0			10.0	* 44		42.0				
Max Q Clear Time (g_c+I1), s		2.0			8.9	32.0		45.0				
Green Ext Time (p_c), s		5.5			0.1	3.9		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	410	300	450	730	270	520	410	340	630	910	90
Future Volume (veh/h)	340	410	300	450	730	270	520	410	340	630	910	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	432	144	474	768	172	547	432	220	663	958	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	776	758	541	1048	892	198	618	557	817	763	1105	55
Arrive On Green	0.37	0.36	0.35	0.22	0.21	0.21	0.13	0.30	0.29	0.16	0.32	0.31
Sat Flow, veh/h	3456	3554	1585	3456	4180	928	3456	1870	1585	3456	3444	173
Grp Volume(v), veh/h	358	432	144	474	624	316	547	432	220	663	494	512
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1702	1703	1728	1870	1585	1728	1777	1839
Q Serve(g_s), s	11.7	14.7	4.6	4.8	26.5	26.9	16.5	31.6	4.5	19.3	39.3	39.3
Cycle Q Clear(g_c), s	11.7	14.7	4.6	4.8	26.5	26.9	16.5	31.6	4.5	19.3	39.3	39.3
Prop In Lane	1.00		1.00	1.00		0.54	1.00		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	776	758	541	1048	726	363	618	557	817	763	570	590
V/C Ratio(X)	0.46	0.57	0.27	0.45	0.86	0.87	0.89	0.78	0.27	0.87	0.87	0.87
Avail Cap(c_a), veh/h	776	758	541	1048	726	363	890	599	852	1277	734	760
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	42.7	12.4	42.6	56.8	57.3	36.5	48.1	8.0	32.9	47.9	48.0
Incr Delay (d2), s/veh	0.4	3.1	1.2	0.3	12.6	23.5	7.7	6.0	0.2	3.6	8.7	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	6.1	1.9	7.0	12.4	13.7	7.4	15.4	1.7	8.2	18.3	18.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.5	45.8	13.6	42.9	69.5	80.8	44.2	54.1	8.2	36.5	56.6	56.4
LnGrp LOS	D	D	B	D	E	F	D	D	A	D	E	E
Approach Vol, veh/h		934			1414			1199			1669	
Approach Delay, s/veh		38.8			63.1			41.1			48.6	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	36.0	24.2	52.1	37.7	36.0	27.7	48.6
Change Period (Y+Rc), s	4.0	5.0	4.0	5.0	4.0	5.0	4.0	5.0
Max Green Setting (Gmax), s	8.3	31.0	32.0	61.0	8.0	31.0	46.0	47.0
Max Q Clear Time (g_c+I1), s	16.8	16.7	18.5	41.3	13.7	28.9	21.3	33.6
Green Ext Time (p_c), s	0.2	2.6	1.7	5.9	0.0	1.2	2.4	2.7

Intersection Summary	
HCM 6th Ctrl Delay	49.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	740	50	440	540	0	0	0	0	430	10	830
Future Volume (veh/h)	0	740	50	440	540	0	0	0	0	430	10	830
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	779	16	463	568	0				453	11	243
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1099	490	491	2187	0				562	14	901
Arrive On Green	0.00	0.31	0.31	0.28	0.62	0.00				0.32	0.32	0.32
Sat Flow, veh/h	0	3647	1585	1781	3647	0				1741	42	2790
Grp Volume(v), veh/h	0	779	16	463	568	0				464	0	243
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1783	0	1395
Q Serve(g_s), s	0.0	25.2	0.9	33.1	9.5	0.0				30.9	0.0	8.4
Cycle Q Clear(g_c), s	0.0	25.2	0.9	33.1	9.5	0.0				30.9	0.0	8.4
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	1099	490	491	2187	0				576	0	901
V/C Ratio(X)	0.00	0.71	0.03	0.94	0.26	0.00				0.81	0.00	0.27
Avail Cap(c_a), veh/h	0	1099	490	548	2187	0				576	0	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.82	0.82	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.7	31.3	46.1	11.4	0.0				40.3	0.0	32.6
Incr Delay (d2), s/veh	0.0	2.1	0.0	20.9	0.2	0.0				11.4	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.2	0.4	17.3	3.7	0.0				15.3	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	41.9	31.4	67.0	11.7	0.0				51.7	0.0	33.4
LnGrp LOS	A	D	C	E	B	A				D	A	C
Approach Vol, veh/h		795			1031						707	
Approach Delay, s/veh		41.7			36.5						45.4	
Approach LOS		D			D						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.8	44.2		46.0		84.0
Change Period (Y+Rc), s	4.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	40.0	34.0		40.0		78.0
Max Q Clear Time (g_c+I1), s	35.1	27.2		32.9		11.5
Green Ext Time (p_c), s	0.7	2.8		2.3		4.3

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	400	770	0	0	930	650	50	10	240	0	0	0
Future Volume (veh/h)	400	770	0	0	930	650	50	10	240	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	421	811	0	0	979	413	53	11	7			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	511	1309	0	0	1852	826	355	74	665			
Arrive On Green	0.15	0.70	0.00	0.00	0.52	0.52	0.24	0.24	0.24			
Sat Flow, veh/h	3456	1870	0	0	3647	1585	1487	309	2790			
Grp Volume(v), veh/h	421	811	0	0	979	413	64	0	7			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1585	1796	0	1395			
Q Serve(g_s), s	15.4	29.9	0.0	0.0	23.7	21.9	3.7	0.0	0.2			
Cycle Q Clear(g_c), s	15.4	29.9	0.0	0.0	23.7	21.9	3.7	0.0	0.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.83		1.00			
Lane Grp Cap(c), veh/h	511	1309	0	0	1852	826	428	0	665			
V/C Ratio(X)	0.82	0.62	0.00	0.00	0.53	0.50	0.15	0.00	0.01			
Avail Cap(c_a), veh/h	665	1309	0	0	1852	826	428	0	665			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.60	0.60	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	53.7	10.3	0.0	0.0	20.6	20.1	39.1	0.0	37.8			
Incr Delay (d2), s/veh	4.0	1.3	0.0	0.0	0.3	0.5	0.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.9	11.5	0.0	0.0	9.7	8.0	1.7	0.0	0.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	11.7	0.0	0.0	20.8	20.6	39.8	0.0	37.8			
LnGrp LOS	E	B	A	A	C	C	D	A	D			
Approach Vol, veh/h		1232			1392			71				
Approach Delay, s/veh		27.4			20.8			39.6				
Approach LOS		C			C			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.0			23.2	71.8		35.0				
Change Period (Y+Rc), s		6.0			5.0	6.0		6.0				
Max Green Setting (Gmax), s		89.0			24.0	60.0		29.0				
Max Q Clear Time (g_c+I1), s		31.9			17.4	25.7		5.7				
Green Ext Time (p_c), s		7.2			0.9	10.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			24.3									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱	↰	↑↑						↲	↱
Traffic Volume (veh/h)	0	800	180	480	680	0	0	0	0	140	10	510
Future Volume (veh/h)	0	800	180	480	680	0	0	0	0	140	10	510
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	842	135	505	716	0				147	11	302
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2326	1037	381	2326	0				453	34	432
Arrive On Green	0.00	0.65	0.65	1.00	1.00	0.00				0.27	0.27	0.27
Sat Flow, veh/h	0	3647	1585	576	3647	0				1663	124	1585
Grp Volume(v), veh/h	0	842	135	505	716	0				158	0	302
Grp Sat Flow(s),veh/h/ln	0	1777	1585	576	1777	0				1787	0	1585
Q Serve(g_s), s	0.0	11.8	3.5	60.2	0.0	0.0				7.8	0.0	18.8
Cycle Q Clear(g_c), s	0.0	11.8	3.5	72.0	0.0	0.0				7.8	0.0	18.8
Prop In Lane	0.00		1.00	1.00		0.00				0.93		1.00
Lane Grp Cap(c), veh/h	0	2326	1037	381	2326	0				487	0	432
V/C Ratio(X)	0.00	0.36	0.13	1.33	0.31	0.00				0.32	0.00	0.70
Avail Cap(c_a), veh/h	0	2326	1037	381	2326	0				487	0	432
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.23	0.23	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.6	7.2	11.1	0.0	0.0				31.9	0.0	35.9
Incr Delay (d2), s/veh	0.0	0.1	0.1	151.5	0.0	0.0				1.8	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.3	1.1	25.9	0.0	0.0				3.6	0.0	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	8.7	7.2	162.6	0.0	0.0				33.7	0.0	45.0
LnGrp LOS	A	A	A	F	A	A				C	A	D
Approach Vol, veh/h		977			1221						460	
Approach Delay, s/veh		8.5			67.3						41.1	
Approach LOS		A			E						D	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		76.0		34.0		76.0
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		71.0		29.0		71.0
Max Q Clear Time (g_c+I1), s		13.8		20.8		74.0
Green Ext Time (p_c), s		8.0		1.3		0.0

Intersection Summary		
HCM 6th Ctrl Delay	41.1	
HCM 6th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	370	0	0	990	260	170	10	220	0	0	0
Future Volume (veh/h)	570	370	0	0	990	260	170	10	220	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	600	389	0	0	1042	0	179	42	211			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	622	2314	0	0	1098		402	94	438			
Arrive On Green	0.51	1.00	0.00	0.00	0.31	0.00	0.28	0.28	0.28			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	1456	342	1585			
Grp Volume(v), veh/h	600	389	0	0	1042	0	221	0	211			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	1798	0	1585			
Q Serve(g_s), s	30.5	0.0	0.0	0.0	31.5	0.0	11.2	0.0	12.2			
Cycle Q Clear(g_c), s	30.5	0.0	0.0	0.0	31.5	0.0	11.2	0.0	12.2			
Prop In Lane	1.00		0.00	0.00		1.00	0.81		1.00			
Lane Grp Cap(c), veh/h	622	2314	0	0	1098		496	0	438			
V/C Ratio(X)	0.96	0.17	0.00	0.00	0.95		0.45	0.00	0.48			
Avail Cap(c_a), veh/h	628	2326	0	0	1098		496	0	438			
HCM Platoon Ratio	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.95	0.95	0.00	0.00	1.00	0.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	18.9	0.0	0.0	0.0	37.1	0.0	32.9	0.0	33.3			
Incr Delay (d2), s/veh	26.2	0.0	0.0	0.0	16.3	0.0	2.9	0.0	3.8			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	15.4	0.0	0.0	0.0	15.9	0.0	5.2	0.0	5.1			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	0.0	0.0	0.0	53.5	0.0	35.7	0.0	37.0			
LnGrp LOS	D	A	A	A	D		D	A	D			
Approach Vol, veh/h		989			1042	A		432				
Approach Delay, s/veh		27.4			53.5			36.4				
Approach LOS		C			D			D				

Timer - Assigned Phs	2	4	7	8
Phs Duration (G+Y+Rc), s	34.4	75.6	37.6	38.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	29.0	71.0	33.0	33.0
Max Q Clear Time (g_c+I1), s	14.2	2.0	32.5	33.5
Green Ext Time (p_c), s	1.8	2.9	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	290	180	60	180	0	0	0	0	100	10	560
Future Volume (veh/h)	0	290	180	60	180	0	0	0	0	100	10	560
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	305	78	63	189	0				105	0	412
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1515	470	586	1054	0				593	0	1055
Arrive On Green	0.00	0.30	0.30	0.30	0.30	0.00				0.33	0.00	0.33
Sat Flow, veh/h	0	5274	1585	1000	3647	0				1781	0	3170
Grp Volume(v), veh/h	0	305	78	63	189	0				105	0	412
Grp Sat Flow(s),veh/h/ln	0	1702	1585	1000	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	1.0	0.8	1.1	0.9	0.0				0.9	0.0	2.2
Cycle Q Clear(g_c), s	0.0	1.0	0.8	2.0	0.9	0.0				0.9	0.0	2.2
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1515	470	586	1054	0				593	0	1055
V/C Ratio(X)	0.00	0.20	0.17	0.11	0.18	0.00				0.18	0.00	0.39
Avail Cap(c_a), veh/h	0	7097	2203	1679	4940	0				2641	0	4700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	5.7	5.6	6.4	5.6	0.0				5.1	0.0	5.5
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.1	0.1	0.0				0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.2	0.1	0.1	0.1	0.0				0.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	5.7	5.8	6.5	5.7	0.0				5.2	0.0	5.8
LnGrp LOS	A	A	A	A	A	A				A	A	A
Approach Vol, veh/h		383			252						517	
Approach Delay, s/veh		5.8			5.9						5.7	
Approach LOS		A			A						A	

Timer - Assigned Phs		4		6		8
Phs Duration (G+Y+Rc), s		10.4		11.2		10.4
Change Period (Y+Rc), s		5.0		5.0		5.0
Max Green Setting (Gmax), s		29.0		31.0		29.0
Max Q Clear Time (g_c+I1), s		3.0		4.2		4.0
Green Ext Time (p_c), s		2.3		2.0		1.5

Intersection Summary	
HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	120	0	0	50	140	190	10	50	0	0	0
Future Volume (veh/h)	270	120	0	0	50	140	190	10	50	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	284	126	0	0	53	62	212	0	21			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	1475	1157	0	0	1157	516	1030	0	458			
Arrive On Green	0.33	0.33	0.00	0.00	0.33	0.33	0.29	0.00	0.29			
Sat Flow, veh/h	2478	3647	0	0	3647	1585	3563	0	1585			
Grp Volume(v), veh/h	284	126	0	0	53	62	212	0	21			
Grp Sat Flow(s),veh/h/ln	1239	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	1.8	0.5	0.0	0.0	0.2	0.6	0.9	0.0	0.2			
Cycle Q Clear(g_c), s	2.1	0.5	0.0	0.0	0.2	0.6	0.9	0.0	0.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	1475	1157	0	0	1157	516	1030	0	458			
V/C Ratio(X)	0.19	0.11	0.00	0.00	0.05	0.12	0.21	0.00	0.05			
Avail Cap(c_a), veh/h	4369	5307	0	0	5307	2367	5320	0	2367			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	5.5	4.9	0.0	0.0	4.8	4.9	5.6	0.0	5.3			
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	0.2	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	4.9	0.0	0.0	4.8	5.0	5.7	0.0	5.4			
LnGrp LOS	A	A	A	A	A	A	A	A	A			
Approach Vol, veh/h		410			115			233				
Approach Delay, s/veh		5.4			4.9			5.6				
Approach LOS		A			A			A				

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	10.0	10.8	10.8
Change Period (Y+Rc), s	5.0	5.0	5.0
Max Green Setting (Gmax), s	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	2.9	4.1	2.6
Green Ext Time (p_c), s	0.8	2.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	910	30	690	520	70	20	340	990	150	290	110
Future Volume (veh/h)	220	910	30	690	520	70	20	340	990	150	290	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	232	958	32	726	547	70	21	358	0	158	305	25
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	1305	582	653	1413	597	59	564		208	863	385
Arrive On Green	0.16	0.37	0.37	0.19	0.40	0.38	0.03	0.16	0.00	0.12	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	3456	3554	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	232	958	32	726	547	70	21	358	0	158	305	25
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1777	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	12.0	22.2	1.2	18.0	10.4	2.7	1.1	9.0	0.0	8.2	6.8	1.2
Cycle Q Clear(g_c), s	12.0	22.2	1.2	18.0	10.4	2.7	1.1	9.0	0.0	8.2	6.8	1.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	283	1305	582	653	1413	597	59	564		208	863	385
V/C Ratio(X)	0.82	0.73	0.05	1.11	0.39	0.12	0.36	0.63		0.76	0.35	0.06
Avail Cap(c_a), veh/h	374	1305	582	653	1413	597	112	1529		374	2051	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	26.1	19.5	38.6	20.4	19.4	45.1	37.5	0.0	40.8	29.9	27.7
Incr Delay (d2), s/veh	8.0	3.7	0.2	70.1	0.8	0.4	1.4	1.2	0.0	2.1	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	9.3	0.5	13.6	4.2	1.0	0.5	3.8	0.0	3.6	2.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.8	29.8	19.6	108.8	21.2	19.8	46.5	38.7	0.0	42.9	30.1	27.8
LnGrp LOS	D	C	B	F	C	B	D	D		D	C	C
Approach Vol, veh/h		1222			1343			379	A		488	
Approach Delay, s/veh		32.8			68.5			39.1			34.1	
Approach LOS		C			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	39.0	7.1	27.2	19.1	41.9	15.2	19.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	33.0	5.0	53.0	19.0	31.0	19.0	39.0
Max Q Clear Time (g_c+I1), s	10.0	24.2	3.1	8.8	14.0	12.4	10.2	11.0
Green Ext Time (p_c), s	0.0	5.0	0.0	2.0	0.1	4.7	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	740	180	270	320	360	250	720	450	489	740	100
Future Volume (veh/h)	100	740	180	270	320	360	250	720	450	489	740	100
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	779	129	284	337	219	263	758	415	515	779	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	871	564	308	719	458	406	1082	745	564	1092	135
Arrive On Green	0.07	0.25	0.24	0.17	0.35	0.34	0.24	0.61	0.59	0.16	0.34	0.34
Sat Flow, veh/h	1781	3554	1585	1781	2082	1326	3456	3554	1585	3456	3184	392
Grp Volume(v), veh/h	105	779	129	284	287	269	263	758	415	515	435	440
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1632	1728	1777	1585	1728	1777	1800
Q Serve(g_s), s	8.1	29.7	2.5	22.0	17.6	18.2	9.6	20.4	23.5	20.5	29.8	29.8
Cycle Q Clear(g_c), s	8.1	29.7	2.5	22.0	17.6	18.2	9.6	20.4	23.5	20.5	29.8	29.8
Prop In Lane	1.00		1.00	1.00		0.81	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	130	871	564	308	613	563	406	1082	745	564	609	617
V/C Ratio(X)	0.81	0.89	0.23	0.92	0.47	0.48	0.65	0.70	0.56	0.91	0.71	0.71
Avail Cap(c_a), veh/h	191	914	583	344	613	563	406	1082	745	592	609	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	0.90	0.90	0.90	0.94	0.94	0.94
Uniform Delay (d), s/veh	63.9	51.1	13.6	57.0	35.8	36.3	50.9	23.0	14.9	57.6	40.0	40.1
Incr Delay (d2), s/veh	14.7	10.9	0.2	27.4	0.5	0.6	3.2	3.4	2.7	17.4	6.6	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	14.2	1.6	12.1	7.6	7.3	4.0	6.4	5.4	10.1	13.8	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.6	62.0	13.8	84.3	36.3	36.9	54.1	26.5	17.6	75.0	46.6	46.6
LnGrp LOS	E	E	B	F	D	D	D	C	B	E	D	D
Approach Vol, veh/h		1013			840			1436			1390	
Approach Delay, s/veh		57.6			52.7			29.0			57.1	
Approach LOS		E			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.8	46.6	28.2	38.3	21.5	52.0	14.2	52.3
Change Period (Y+Rc), s	4.0	* 5	4.0	* 5	* 5	* 5	4.0	* 5
Max Green Setting (Gmax), s	24.0	* 36	27.0	* 35	* 13	* 47	15.0	* 47
Max Q Clear Time (g_c+I1), s	22.5	25.5	24.0	31.7	11.6	31.8	10.1	20.2
Green Ext Time (p_c), s	0.3	4.8	0.3	1.7	0.1	4.5	0.1	3.4

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	750	680	0	1650	870	1030
Future Volume (veh/h)	750	680	0	1650	870	1030
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	789	716	0	1737	916	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	868	772	0	2034	1416	
Arrive On Green	0.49	0.49	0.00	0.53	0.40	0.00
Sat Flow, veh/h	1781	1585	0	5443	3647	1585
Grp Volume(v), veh/h	789	716	0	1737	916	0
Grp Sat Flow(s),veh/h/ln	1781	1585	0	1702	1777	1585
Q Serve(g_s), s	28.5	29.6	0.0	20.4	14.6	0.0
Cycle Q Clear(g_c), s	28.5	29.6	0.0	20.4	14.6	0.0
Prop In Lane	1.00	1.00	0.00			1.00
Lane Grp Cap(c), veh/h	868	772	0	2034	1416	
V/C Ratio(X)	0.91	0.93	0.00	0.85	0.65	
Avail Cap(c_a), veh/h	891	793	0	2034	1416	
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.77	1.00	0.00
Uniform Delay (d), s/veh	16.5	16.8	0.0	14.7	17.1	0.0
Incr Delay (d2), s/veh	12.9	16.6	0.0	3.8	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	12.8	0.0	6.0	5.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.4	33.4	0.0	18.5	19.4	0.0
LnGrp LOS	C	C	A	B	B	
Approach Vol, veh/h	1505			1737	916	A
Approach Delay, s/veh	31.3			18.5	19.4	
Approach LOS	C			B	B	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	31.9		38.1		31.9
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	26.0		34.0		26.0
Max Q Clear Time (g_c+I1), s	22.4		31.6		16.6
Green Ext Time (p_c), s	2.6		1.5		3.1

Intersection Summary		
HCM 6th Ctrl Delay		23.3
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	460	1110	130	220	780	230	110	440	60	290	410	140
Future Volume (veh/h)	460	1110	130	220	780	230	110	440	60	290	410	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	484	1168	137	232	821	228	116	463	63	305	432	131
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	518	1248	146	216	962	267	139	1907	258	347	1694	509
Arrive On Green	0.15	0.39	0.38	0.12	0.35	0.34	0.08	0.61	0.60	0.17	1.00	1.00
Sat Flow, veh/h	3456	3205	375	1781	2747	763	1781	3145	426	3456	2693	809
Grp Volume(v), veh/h	484	646	659	232	531	518	116	261	265	305	284	279
Grp Sat Flow(s),veh/h/ln	1728	1777	1803	1781	1777	1733	1781	1777	1794	1728	1777	1725
Q Serve(g_s), s	19.4	48.9	49.2	17.0	38.8	38.9	9.0	9.5	9.6	12.1	0.0	0.0
Cycle Q Clear(g_c), s	19.4	48.9	49.2	17.0	38.8	38.9	9.0	9.5	9.6	12.1	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.44	1.00		0.24	1.00		0.47
Lane Grp Cap(c), veh/h	518	692	702	216	622	607	139	1078	1088	347	1118	1085
V/C Ratio(X)	0.93	0.93	0.94	1.07	0.85	0.85	0.84	0.24	0.24	0.88	0.25	0.26
Avail Cap(c_a), veh/h	518	692	702	216	622	607	204	1078	1088	351	1118	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	58.8	41.0	41.3	61.5	42.2	42.5	63.7	12.7	12.8	57.4	0.0	0.0
Incr Delay (d2), s/veh	22.2	19.9	20.3	81.8	13.9	14.3	11.9	0.5	0.5	19.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	24.3	25.0	12.4	18.8	18.5	4.5	3.9	4.0	5.9	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.0	61.0	61.6	143.3	56.1	56.8	75.5	13.2	13.3	77.3	0.5	0.5
LnGrp LOS	F	E	E	F	E	E	E	B	B	E	A	A
Approach Vol, veh/h		1789			1281			642			868	
Approach Delay, s/veh		66.6			72.2			24.5			27.5	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	58.5	14.9	93.4	26.5	53.0	18.1	90.3
Change Period (Y+Rc), s	* 4	5.5	* 4	5.0	5.5	* 5.5	* 4	5.0
Max Green Setting (Gmax), s	* 17	51.5	* 16	37.0	21.0	* 48	* 14	38.8
Max Q Clear Time (g_c+I1), s	19.0	51.2	11.0	2.0	21.4	40.9	14.1	11.6
Green Ext Time (p_c), s	0.0	0.2	0.0	3.7	0.0	3.3	0.0	3.2

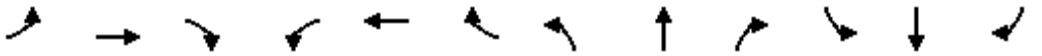
Intersection Summary	
HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

APPENDIX B: Mitigated Level of Service Synchro 10 Reports





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2200	220	440	970	0	0	0	0	470	10	1060
Future Volume (veh/h)	0	2200	220	440	970	0	0	0	0	470	10	1060
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	2316	232	463	1021	0				503	0	1116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	2396	239	1017	3801	0				897	0	1197
Arrive On Green	0.00	0.40	0.39	0.29	0.74	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	6253	597	3456	5274	0				2607	0	3479
Grp Volume(v), veh/h	0	1863	685	463	1021	0				503	0	1116
Grp Sat Flow(s),veh/h/ln	0	1609	1763	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	34.0	34.3	9.8	5.7	0.0				14.1	0.0	27.9
Cycle Q Clear(g_c), s	0.0	34.0	34.3	9.8	5.7	0.0				14.1	0.0	27.9
Prop In Lane	0.00		0.34	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1930	705	1017	3801	0				897	0	1197
V/C Ratio(X)	0.00	0.97	0.97	0.46	0.27	0.00				0.56	0.00	0.93
Avail Cap(c_a), veh/h	0	1930	705	1017	3801	0				898	0	1198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.78	0.78	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	26.4	26.6	25.9	3.7	0.0				24.0	0.0	28.5
Incr Delay (d2), s/veh	0.0	11.6	23.6	0.4	0.2	0.0				0.8	0.0	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.7	17.4	3.8	1.3	0.0				4.2	0.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.0	50.2	26.3	3.8	0.0				24.8	0.0	41.4
LnGrp LOS	A	D	D	C	A	A				C	A	D
Approach Vol, veh/h		2548			1484						1619	
Approach Delay, s/veh		41.3			10.8						36.3	
Approach LOS		D			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	31.5	40.0		35.0		71.5
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	11.0	* 36		30.0		50.5
Max Q Clear Time (g_c+I1), s	11.8	36.3		29.9		7.7
Green Ext Time (p_c), s	0.0	0.0		0.1		4.8

Intersection Summary		
HCM 6th Ctrl Delay		31.9
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1430	400	200	1030	0	0	0	0	430	10	370
Future Volume (veh/h)	0	1430	400	200	1030	0	0	0	0	430	10	370
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1505	389	211	1084	0				453	11	335
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1487	370	424	2880	0				443	11	710
Arrive On Green	0.00	1.00	1.00	0.48	1.00	0.00				0.25	0.25	0.25
Sat Flow, veh/h	0	2913	701	1781	3647	0				1741	42	2790
Grp Volume(v), veh/h	0	926	968	211	1084	0				464	0	335
Grp Sat Flow(s),veh/h/ln	0	1777	1744	1781	1777	0				1783	0	1395
Q Serve(g_s), s	0.0	0.0	55.3	9.0	0.0	0.0				28.0	0.0	11.2
Cycle Q Clear(g_c), s	0.0	0.0	55.3	9.0	0.0	0.0				28.0	0.0	11.2
Prop In Lane	0.00		0.40	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	937	920	424	2880	0				454	0	710
V/C Ratio(X)	0.00	0.99	1.05	0.50	0.38	0.00				1.02	0.00	0.47
Avail Cap(c_a), veh/h	0	937	920	424	2880	0				454	0	710
HCM Platoon Ratio	1.00	2.00	2.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.16	0.16	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	24.3	0.0	0.0				41.0	0.0	34.7
Incr Delay (d2), s/veh	0.0	26.8	44.4	0.1	0.1	0.0				48.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	7.0	11.3	3.2	0.0	0.0				17.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	26.8	44.4	24.5	0.1	0.0				89.0	0.0	34.9
LnGrp LOS	A	C	F	C	A	A				F	A	C
Approach Vol, veh/h		1894			1295						799	
Approach Delay, s/veh		35.8			4.0						66.3	
Approach LOS		D			A						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	31.2	62.0		32.0		93.2
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	12.3	* 57		27.0		73.0
Max Q Clear Time (g_c+I1), s	11.0	57.3		30.0		2.0
Green Ext Time (p_c), s	0.1	0.0		0.0		6.0

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	760	1100	0	0	660	360	630	10	450	0	0	0
Future Volume (veh/h)	760	1100	0	0	660	360	630	10	450	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	800	1158	0	0	695	315	568	144	461			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	948	1210	0	0	778	352	599	132	422			
Arrive On Green	0.55	1.00	0.00	0.00	0.33	0.32	0.34	0.34	0.33			
Sat Flow, veh/h	3456	1870	0	0	2470	1077	1781	391	1253			
Grp Volume(v), veh/h	800	1158	0	0	520	490	568	0	605			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1677	1781	0	1645			
Q Serve(g_s), s	21.4	0.0	0.0	0.0	30.6	30.6	34.2	0.0	37.0			
Cycle Q Clear(g_c), s	21.4	0.0	0.0	0.0	30.6	30.6	34.2	0.0	37.0			
Prop In Lane	1.00		0.00	0.00		0.64	1.00		0.76			
Lane Grp Cap(c), veh/h	948	1210	0	0	582	549	599	0	553			
V/C Ratio(X)	0.84	0.96	0.00	0.00	0.89	0.89	0.95	0.00	1.09			
Avail Cap(c_a), veh/h	948	1210	0	0	582	549	599	0	553			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	22.8	0.0	0.0	0.0	35.2	35.5	35.6	0.0	36.9			
Incr Delay (d2), s/veh	0.7	2.6	0.0	0.0	18.7	19.6	24.3	0.0	66.3			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.6	0.9	0.0	0.0	15.8	15.1	18.1	0.0	24.4			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	2.6	0.0	0.0	53.9	55.1	59.9	0.0	103.1			
LnGrp LOS	C	A	A	A	D	E	E	A	F			
Approach Vol, veh/h		1958			1010			1173				
Approach Delay, s/veh		11.2			54.5			82.2				
Approach LOS		B			D			F				

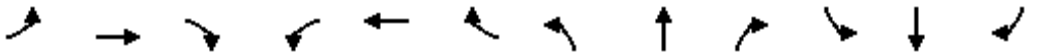
Timer - Assigned Phs	2			5	6		8					
Phs Duration (G+Y+Rc), s	75.2			35.2	40.0		41.0					
Change Period (Y+Rc), s	5.0			5.0	* 5		5.0					
Max Green Setting (Gmax), s	64.0			25.0	* 35		36.0					
Max Q Clear Time (g_c+I1), s	2.0			23.4	32.6		39.0					
Green Ext Time (p_c), s	7.8			0.6	1.1		0.0					

Intersection Summary												
HCM 6th Ctrl Delay			41.8									
HCM 6th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1950	540	310	1010	0	0	0	0	480	40	1230
Future Volume (veh/h)	0	1950	540	310	1010	0	0	0	0	480	40	1230
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1368	1368	1368
Adj Flow Rate, veh/h	0	2053	509	326	1063	0				535	0	1235
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				25	25	25
Cap, veh/h	0	2049	502	319	2683	0				1020	0	1361
Arrive On Green	0.00	0.13	0.13	0.09	0.53	0.00				0.39	0.00	0.39
Sat Flow, veh/h	0	5456	1273	3456	5274	0				2607	0	3479
Grp Volume(v), veh/h	0	1906	656	326	1063	0				535	0	1235
Grp Sat Flow(s),veh/h/ln	0	1609	1641	1728	1702	0				1303	0	1160
Q Serve(g_s), s	0.0	35.5	35.5	8.3	11.2	0.0				14.2	0.0	30.2
Cycle Q Clear(g_c), s	0.0	35.5	35.5	8.3	11.2	0.0				14.2	0.0	30.2
Prop In Lane	0.00		0.78	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1903	647	319	2683	0				1020	0	1361
V/C Ratio(X)	0.00	1.00	1.01	1.02	0.40	0.00				0.52	0.00	0.91
Avail Cap(c_a), veh/h	0	1903	647	319	2683	0				1043	0	1392
HCM Platoon Ratio	1.00	0.33	0.33	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.79	0.79	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	39.1	39.3	40.9	12.8	0.0				21.0	0.0	25.9
Incr Delay (d2), s/veh	0.0	18.6	34.9	56.5	0.4	0.0				0.5	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.3	21.6	5.9	3.8	0.0				4.1	0.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	57.8	74.2	97.3	13.2	0.0				21.5	0.0	34.7
LnGrp LOS	A	F	F	F	B	A				C	A	C
Approach Vol, veh/h		2562			1389						1770	
Approach Delay, s/veh		62.0			33.0						30.7	
Approach LOS		E			C						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	39.0		39.2		50.8
Change Period (Y+Rc), s	4.5	* 4.5		5.0		4.5
Max Green Setting (Gmax), s	7.0	* 35		35.0		45.5
Max Q Clear Time (g_c+I1), s	10.3	37.5		32.2		13.2
Green Ext Time (p_c), s	0.0	0.0		2.0		5.0

Intersection Summary		
HCM 6th Ctrl Delay		45.2
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	870	1050	280	880	0	0	0	0	330	40	850
Future Volume (veh/h)	0	870	1050	280	880	0	0	0	0	330	40	850
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	916	881	295	926	0				347	42	736
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	987	849	567	3199	0				363	44	609
Arrive On Green	0.00	0.91	0.90	0.64	1.00	0.00				0.23	0.23	0.22
Sat Flow, veh/h	0	1903	1557	1781	3647	0				1597	193	2790
Grp Volume(v), veh/h	0	897	900	295	926	0				389	0	736
Grp Sat Flow(s),veh/h/ln	0	1777	1590	1781	1777	0				1791	0	1395
Q Serve(g_s), s	0.0	31.6	60.0	9.9	0.0	0.0				23.6	0.0	24.0
Cycle Q Clear(g_c), s	0.0	31.6	60.0	9.9	0.0	0.0				23.6	0.0	24.0
Prop In Lane	0.00		0.98	1.00		0.00				0.89		1.00
Lane Grp Cap(c), veh/h	0	969	867	567	3199	0				407	0	609
V/C Ratio(X)	0.00	0.93	1.04	0.52	0.29	0.00				0.96	0.00	1.21
Avail Cap(c_a), veh/h	0	969	867	567	3199	0				407	0	609
HCM Platoon Ratio	1.00	1.67	1.67	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.71	0.71	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	3.6	5.7	15.4	0.0	0.0				42.0	0.0	43.0
Incr Delay (d2), s/veh	0.0	15.8	40.6	0.6	0.2	0.0				33.1	0.0	108.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.3	12.2	3.1	0.1	0.0				13.8	0.0	17.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	19.4	46.4	16.0	0.2	0.0				75.0	0.0	151.9
LnGrp LOS	A	B	F	B	A	A				E	A	F
Approach Vol, veh/h		1797			1221						1125	
Approach Delay, s/veh		32.9			4.0						125.3	
Approach LOS		C			A						F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	39.0	64.0		29.0		103.0
Change Period (Y+Rc), s	5.0	* 5		5.0		5.0
Max Green Setting (Gmax), s	13.0	* 59		24.0		76.0
Max Q Clear Time (g_c+I1), s	11.9	62.0		26.0		2.0
Green Ext Time (p_c), s	0.1	0.0		0.0		4.8

Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	940	0	0	610	440	550	10	130	0	0	0
Future Volume (veh/h)	260	940	0	0	610	440	550	10	130	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	274	989	0	0	642	429	362	315	134			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	674	1198	0	0	835	557	511	357	152			
Arrive On Green	0.39	1.00	0.00	0.00	0.41	0.41	0.29	0.29	0.28			
Sat Flow, veh/h	3456	1870	0	0	2134	1362	1781	1245	530			
Grp Volume(v), veh/h	274	989	0	0	559	512	362	0	449			
Grp Sat Flow(s),veh/h/ln	1728	1870	0	0	1777	1625	1781	0	1775			
Q Serve(g_s), s	6.3	0.0	0.0	0.0	29.8	29.9	20.0	0.0	26.6			
Cycle Q Clear(g_c), s	6.3	0.0	0.0	0.0	29.8	29.9	20.0	0.0	26.6			
Prop In Lane	1.00		0.00	0.00		0.84	1.00		0.30			
Lane Grp Cap(c), veh/h	674	1198	0	0	727	665	511	0	509			
V/C Ratio(X)	0.41	0.83	0.00	0.00	0.77	0.77	0.71	0.00	0.88			
Avail Cap(c_a), veh/h	674	1198	0	0	727	665	696	0	694			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.09	0.09	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	28.9	0.0	0.0	0.0	28.0	28.0	35.1	0.0	37.6			
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	7.7	8.4	1.0	0.0	8.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.3	0.2	0.0	0.0	13.7	12.7	8.5	0.0	12.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	0.6	0.0	0.0	35.7	36.4	36.1	0.0	45.7			
LnGrp LOS	C	A	A	A	D	D	D	A	D			
Approach Vol, veh/h		1263			1071			811				
Approach Delay, s/veh		6.8			36.0			41.4				
Approach LOS		A			D			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		74.5			25.5	49.0		35.5				
Change Period (Y+Rc), s		5.0			5.0	* 5		5.0				
Max Green Setting (Gmax), s		58.0			10.0	* 44		42.0				
Max Q Clear Time (g_c+I1), s		2.0			8.3	31.9		28.6				
Green Ext Time (p_c), s		5.5			0.2	3.9		1.9				

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Appendix N General Plan Update Technical Background Report

Appendices

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CITY OF CORONA

General Plan Technical Background Report









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1 Introduction

This "Technical Background Report" provides a profile of existing conditions pertaining to Corona, its sphere of influence, and its general plan. The Technical Background Report presents information for each of the physical, social, and economic resources required to update the general plan and serves as the foundation document from which subsequent planning policies and programs will be formulated.

1.1 INTRODUCTION

The Corona General Plan is a state-required document that provides guidance to decision-makers regarding the allocation of resources and the future physical form and character of development in the City and its sphere of influence. The General Plan articulates the City's intentions with respect to the rights and expectations of the general public, property owners, and prospective investors and business interests. The Corona General Plan contains the long-term vision, goals and policies to guide the vision, and implementation programs to achieve the City's vision.

Corona's modern history dates back more than a century to its incorporation in 1896. While the City's roots were in the agricultural industry, the City of Corona has transformed over the past fifty years into the 31st most populated city in California. Corona encompasses 39 square miles, has a residential population of 168,000, and offers a thriving business environment for industry and commerce. Noted for its schools, recreational opportunities, and historic/cultural amenities, the City is well known for offering one of the finest qualities of life in southern California.

The prior two general plan updates guided the vast majority of the preceding growth and development of the City of Corona. These efforts set the vision for the community and its present day land use and development patterns. As such, this general plan update is intended to be a technical update to the 2004 General Plan. As such, this update is not intended to revise land use policy in the community; no land use changes are being proposed as part of this update. However, General Plan land use amendments that have been approved since 2004 are being included in the Land Use Plan as part of this update. This update primarily focuses on incorporating changes in state law and reflecting contemporary community issues.

This technical report documents previous land planning work and the current policy and regulatory environment that influence the City's update to the general plan. Essentially, this report is a "snapshot" of Corona's current trends and conditions. It provides City staff, decision-makers, and the public with context for making land use and policy decisions, and is intended to be objective and policy neutral. In that context, this report serves as a foundation for identifying community issues that should be considered in completing a technical update to the general plan.

1.2 LOCATION AND PLANNING AREA

Corona is in the northwestern portion of Riverside County, near the convergence of San Bernardino, Orange, and Riverside counties, about 45 miles southeast of Los Angeles. The City is bordered by Norco to the north, Riverside to the east, Orange County to the west, and Riverside County to the south. Two major freeways transect Corona—the Riverside Freeway (SR-91) runs east-west directly north of the City's center, and Interstate 15 (I-15) runs north-south near the eastern edge of the City.

California Government Code requires the general plan to cover the entire area within a city's limits and any land outside its boundaries that "bears relation to its planning." The City's sphere of influence (SOI), defined by the City and the Riverside County Local Agency Formation Commission, represents areas likely to be served by the City. In Corona, the general plan covers all 39.2 square miles within City limits and provides input to Riverside County for planning issues in the 35.2 square miles of the City's SOI, which includes Coronita, Home Gardens, El Cerrito, and Temescal Valley.

The 2004 Corona General Plan established policy guidance for these areas consistent with the Riverside County General Plan. The 2004 Corona General Plan was designed to adopt the land use policy direction in the county general plan and encourage development of the SOI with respect to applicable density standards and design and development policies consistent with the intent of the Riverside County General Plan. That commitment remains today. Figure 1-1 on the following page shows the City of Corona, its SOI, and the planning area covered by the update of the general plan.

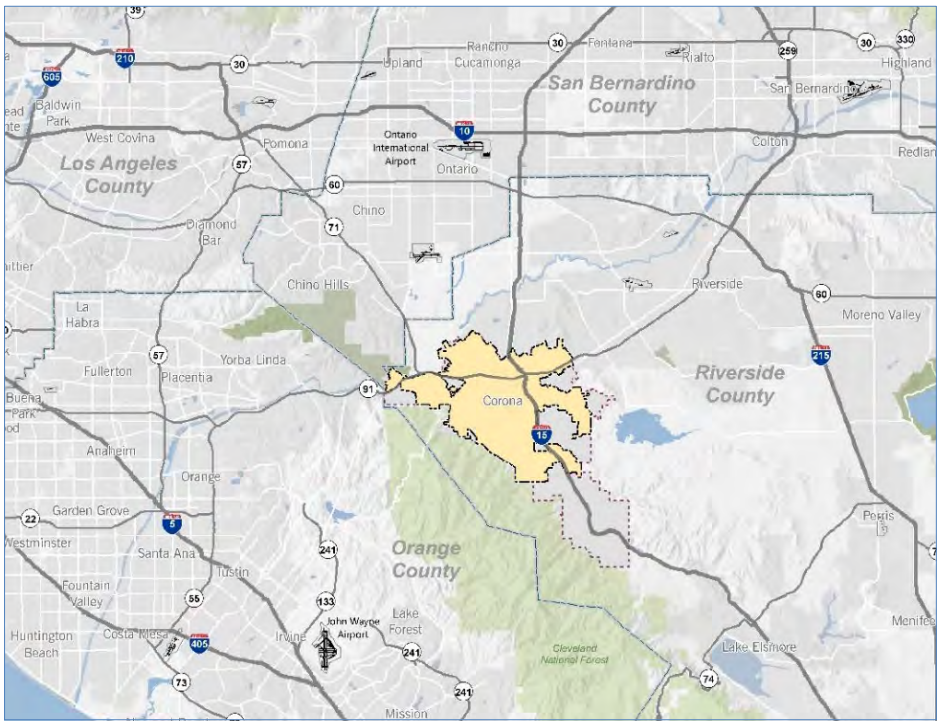


Figure I-1 Location Map

1.3 CORONA GENERAL PLAN

Section 65203 of the California Government Code requires each city to adopt a general plan to guide future growth and conservation relative to land use. The City of Corona's 2004 General Plan satisfies state mandates. The general plan serves as a "blueprint" for future planning and development decisions within the city.

Organization of the General Plan

State law requires each general plan to contain eight mandated elements–land use, circulation, housing, conservation, open space, noise, safety, and environmental justice (for all general plans updated in 2018 and thereafter). However, state law allows for significant latitude in its organization. The 2004 Corona General Plan is organized as follows:

- **Introduction** describes the general plan and introduces the reader to the document. It also describes the process involved in updating the general plan and serves as a practical guide for understanding the general plan.
- **Community vision** presents the statement of community values about the future functional role and character of Corona. This serves as a guide for policy makers on how land should be used and resources deployed.
- **Community development** presents goals and policies for how development is maintained and enhanced and how new development occurs. It addresses land uses, community design, housing, economic development, and historic preservation.
- **Infrastructure and public services** presents goals and policies for the provision of infrastructure and services that support residents and businesses. It includes parks and recreation, circulation, infrastructure and utilities, and public services.
- **Natural resources** addresses a wide variety of resources, including the management of open space and conservation of natural resources such as water, soils, plants and wildlife, viewscapes, air, and energy.
- **Public safety and hazards** presents goals and policies to protect residents from the impacts of natural hazards. This element includes natural hazards (flooding, seismic, wildfire), human-caused hazards (hazardous materials), and noise.
- **Implementation programs** describe the actions to carry out the goals and policies in the general plan. These encompass development systems, governance, public improvement plans, public services, and general financing.

Government Code §65303 also permits cities to formulate other elements, which, in the "judgment of the planning agency," relate to the physical development of the city. These "permissive" elements are as legally binding as any of the mandatory elements. The Corona General Plan includes four permissive elements—community design, economic development, historic resources, and parks and recreation. These elective elements are intended to be included in the update of the general plan as well.

1.4 TECHNICAL BACKGROUND REPORT

The Technical Background Report (TBR) provides technical data needed for preparation of the general plan and to inform the existing environmental setting of the environmental impact report. Its organization and intent are described below. With the exception of a few issues that are addressed later in the environmental documentation, the TBR is designed to mirror the topics in the general plan.

This report is organized into six chapters reflecting the major topics addressed in the prior TBR except for Chapter 6 which solely addresses a new state mandate.:

- **Chapter 1–Introduction**. This chapter sets the setting for the report and the chapters that follow. Also included is a summary of issues and opportunities for consideration in the general plan update.
- **Chapter 2–Community Development**. This chapter includes information on existing land use, regulatory land use planning framework, culture and history, population and housing, and employment.
- **Chapter 3–Infrastructure, Facilities and Public Services**. This chapter includes information on transportation; water, sewer, storm drainage, and wastewater treatment; and public services such as police, parks, libraries, and schools.
- **Chapter 4–Natural Resources**. This chapter includes information on oil, gas, and mineral resources; geology, soils, forestry, and agriculture; visual resources; water resources; air resources; and biological resources.
- **Chapter 5–Environmental Hazards**. This chapter includes information on geologic and seismic hazards; flooding and dam inundation; hazardous waste and materials; airport hazards; and fire hazards.
- **Chapter 6–Health and Wellness.** This chapter includes information on topics related to healthy communities and environmental justice consistent with guidance provided by the Office of Planning and Research.

Each section is organized in a similar outline to allow for easy reference for the reader. The required sections are: 1) an introduction that provides a brief description of the issues covered in the chapter; 2) a summary of the federal, state, and local laws and regulations pertaining to each topic (including goals of the prior general plan); 3) a description of key existing conditions in the community updated since 2004; that have ether changed or remain relevant; and finally, 4) key challenges and opportunities to include in the General Plan update.

As the general plan has taken three years to complete, it is not anticipated that the TBR will incorporate all the latest information available for each and every topic. Municipal governance is a dynamic process and "existing conditions" and "regulatory information" are constantly evolving to address rapid changing circumstances. Information and data source are constantly changing as new information becomes available. We have attempted to balance the need for keeping information relevant, while also recognizing that maintaining currency is not possible in all cases.

1.5 DATA SOUCES AND REFERENCES

Extensive research was undertaken to document current conditions in the TBR that impact Corona and inform the general plan update. Data sources used to inform this report cover an array of local, county, state, and federal documents, surveys, and websites. The 2004 General Plan and the goals in the existing elements were used as the foundation for this General Plan Update. These are goals are mentioned throughout the TBR as a frame of reference and assists in the development of new goals and opportunities for the General Plan update. The TBR's subject material was also supplemented by technical reports, provided under separate cover, as part of the documentation for the environmental impact report for the general plan.

In completing this report, it is recognized that planning issues, development projects, and even state legislation are continuously changing. This report should therefore be considered a snapshot in time. During the general plan update process, it is recognized that projects will be built, master plans updated, and new legislation passed. While the TBR is not intended to be continuously updated, the general plan will be drafted to reflect new contingencies that may arise during this process.

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2 Community Development

This chapter contains information on Corona's community development issues, including the regulatory framework for planning, the topics of land use, community design, historic preservation, and demographics, housing, and economics.

2.1 INTRODUCTION

This chapter presents information regarding existing land uses, planned land uses, and potential development within the General Plan Planning Area (the City of Corona and the Sphere of Influence [SOI]). The information is based on review of City GIS maps, a windshield survey of the City and SOI, and a review of pertinent public documents, including specific plans and master plans. The depiction of existing uses provides a framework for understanding the City and its future development.

Corona's development in the past decades has been guided by its vision to become a complete, self-sustaining, and prosperous community—one that offers places to live, work, shop, recreate, be educated, be entertained, celebrate culture and history, socialize, have personal privacy, pursue religious freedom, and contemplate nature. It has been designed to offer choices for a population that is diverse in its ethnicity, culture, age, education, and income. As the City has matured, these choices enable residents to fully meet their needs without traveling to other communities.

How land is used plays a fundamental role in achieving these objectives. With the significant growth over the past decades, the City is approaching buildout. While the supply of vacant land is diminishing, there remain opportunity areas in the city where future growth and change are envisioned by the 2004 general plan and carried over in the general plan update. These include greater utilization of existing land resources within the land use intensity and density standards allowed by the general plan. Corona will continue to wisely use remaining land resources for community-wide benefits.

This chapter includes an overview of four topics:

» Land use, including where lands are to be conserved and where growth will be targeted consistent with the direction set forth in the 2004 general plan. However, land use amendments to the general plan approved since 2004 have been included in the General Plan Land Use Plan as part of the general plan update.

» Community design features, including city procedures, area typologies, and other aspects to ensure projects are well designed and benefit the community.

» Historical resources, including a brief history of Corona, key historic resources, and efforts to preserve such resources for future generations.

» Housing and economic development, including demographics, housing types and needs, and characteristics and trends in Corona's local economy.

2.2 LAND USE DEVELOPMENT

This section includes a description of the regulatory context governing land use planning, existing land uses in the city and SOI, and future development opportunities.

2.2.1 Regulatory Framework

California state law and local regulations, such as Corona's zoning code, specific plans, and general plan, set the regulatory framework for land use planning for the City. A general discussion of the applicable laws and regulations is below.

California General Plan Law

California law (Government Code §§ 65300 et seq.) requires cities to adopt a general plan that presents a comprehensive, long-range, and consistent plan for future land use. Specifically, it establishes goals and policy direction to ensure that the vision for the community is preserved and enhanced well into the future. State law requires all general plans to include eight elements, including land use; other elements are noted where applicable throughout this report. The land use element establishes goals, objectives, policies, and implementation programs. The policy direction typically found in this element also describes direction and criteria for development, including building intensity and population density. Land use categories are used to depict the general distribution, location, and extent of public and private uses of land.

Corona 2004 General Plan

Corona's 2004 General Plan vision and guiding principles define a framework for the goals, policies, and implementation programs. The vision recognizes the "complexities involved in balancing historical patterns of development with a region experiencing unparalleled rates of growth…." The 2004 General Plan was significant in that it set the future land use framework for the community that has been implemented since adoption and continues to guide land use decisions today.

The General Plan includes 16 goals that address Corona's land uses to meet future growth. These goals are listed below.

- **Goal 1.1.** A city that contains a diversity of land uses that supports the needs of and provides a high quality of life for its residents, sustains and enhances the City economy and fiscal balance, is supported by adequate community infrastructure and services, and is compatible with the environmental setting and resources.

- **Goal 1.2.** A cohesive and integrated City comprised of distinct and vital commercial and business districts and livable residential neighborhoods, which are correlated with supporting transportation and utility infrastructure and sustain natural open spaces, hillsides, and canyons.

- **Goal 1.3.** A development pattern that retains and complements the City's important residential neighborhoods, commercial and industrial districts, and open spaces.

- **Goal 1.4.** Strategic growth that preserves existing viable residential neighborhoods and commercial and industrial districts and targets new development to remain vacant parcels that are environmentally suitable and can be supported by infrastructure and services and re-uses appropriate properties to enhance their economic vitality and community livability.
- **Goal 1.5.** Distinct neighborhoods and districts that contribute to the identity, character, and image of Corona as a vital, livable, diverse, innovative, and environmentally sustainable community.
- **Goal 1.6.** A community of buildings and properties that are well maintained, sustaining Corona's physical and economic quality and character.
- **Goal 1.7.** Residential neighborhoods that contain a diversity of housing and supporting uses to meet the needs of Corona's residents that are designed to enhance livability and a high quality of life.
- **Goal 1.8.** Assure the integrity, quality, and livability of Corona's existing residential neighborhoods preserving those elements that give them character, cohesion, and quality of life.
- **Goal 1.9.** Development of new residential neighborhoods that complement existing neighborhoods and assure a high level of livability for their residents.
- **Goal 1.10.** Development of low-density residential neighborhoods in area on the City's southern periphery that preserves the rural and open space character of their setting.
- **Goal 1.11.** A diversity of viable commercial districts and corridors that contain uses supporting resident, businesses, and visitor needs and contribute revenue to the City to fund essential services.
- **Goal 1.12.** Development and maintenance of industries that provide job opportunities for Corona's residents and sustain the City's economy.
- **Goal 1.13.** Vital and active districts that provide housing opportunities in proximity to commercial uses, services, entertainment, and public transit portals.
- **Goal 1.14.** Economically vital districts that are characterized by benefit from their integrated mix of industries, retail, and office uses.
- **Goal 1.15.** A mix of governmental service, institutional, educational, recreational, and utility facilities that support the needs of Corona's residents and businesses.
- **Goal 1.16.** Open spaces that provide Corona's residents with opportunities to enjoy the natural environment, provide visual "relief" from urban development, protect significant plant and animal habitats and protect development from natural environmental hazards.

County of Riverside General Plan and Temescal Valley Area

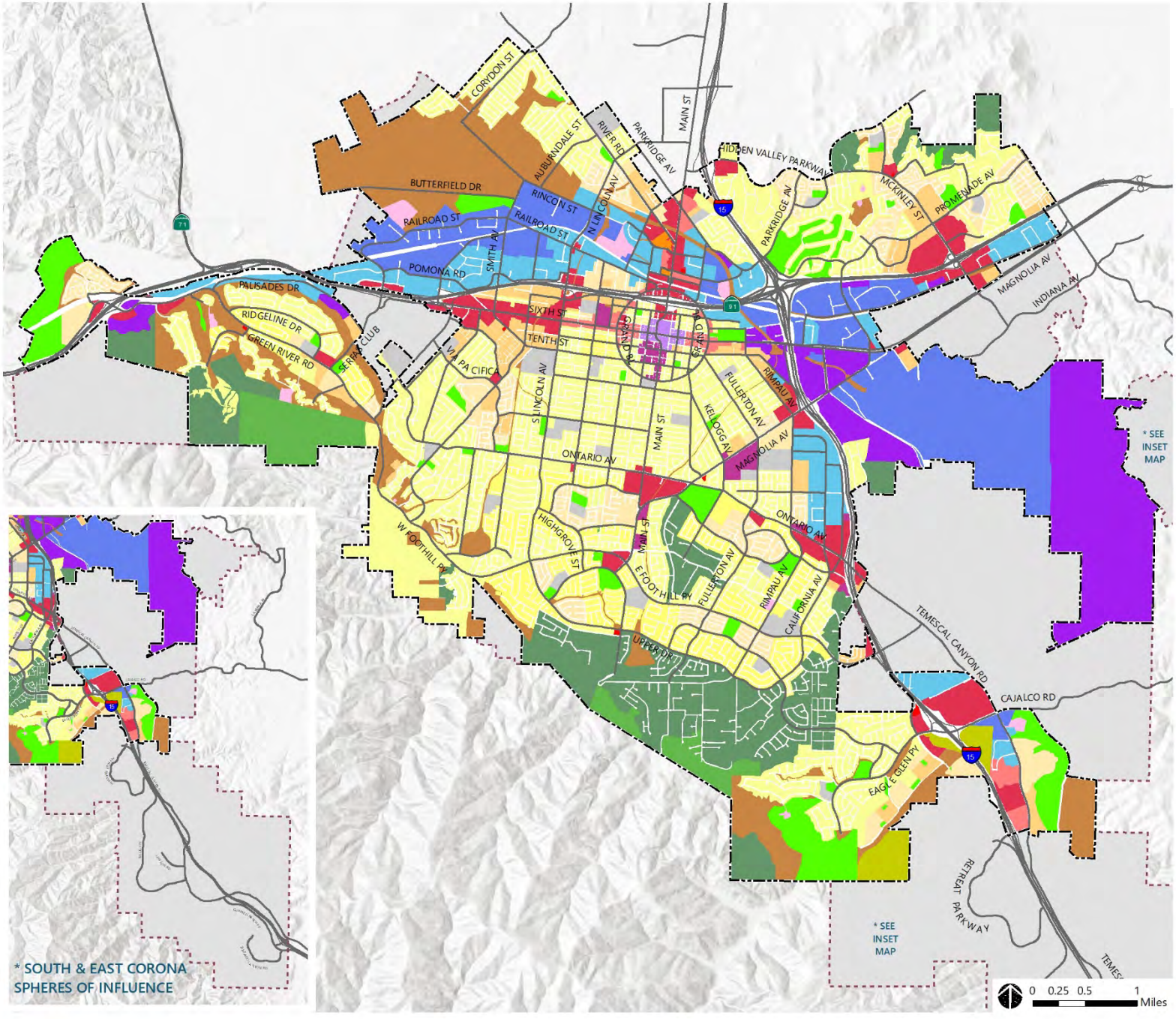
The County's General Plan and Area Plans guide long-range planning for these areas. The Temescal Canyon Area Plan (TCAP) encompasses the western gateway to Riverside County and wraps around Corona, encompassing its SOI. The TCAP was last adopted in 2016 and sets forth the land use plan for the region. Temescal Valley, Home Gardens, Coronita, and El Cerrito is intended to be consistent with the TCAP. Development of the Eagle Valley SOI will be determined by Specific Plans.

The TCAP's vision, goals, policies, and land use plan are the foundations for land use planning through 2020. Seven policy areas have been designated in the TCAP that are relevant to land planning in the SOI. Each of the policy areas are summarized below.

- **Design Theme Policy Area** builds on the theme and the character established by retail development west of Interstate 15 at Temescal Canyon Road. Policies for this area provide development guidance related to architectural style, building materials, landscaping, and the protection of environmental resources.
- **El Sobrante Landfill Policy Area** guides the use of this regional public facility. Policies are intended to ensure the landfill's continued operations and compatibility with adjacent uses.
- **East Temescal Hillside Policy Area** requires the use of a specific plan to guide development for this area for consistency with the Riverside County Vision. Significant environmental considerations must be accounted for when making land use decisions for this area.
- **Serrano Policy Area** is intended as a job center for area residents. Policies for this area guide the development of non-residential uses through the use of a specific plan and must be compatible with adjacent uses.
- **Santa Ana River Corridor Policy Area** is intended to preserve and protect the natural and recreational feature of the Santa Ana River. The corridor includes the Santa Ana River Trail, which will extend from San Bernardino to Orange County while protecting and preserving a major watershed and wildlife linkage.
- **Temescal Wash Policy Area** comprises the principal drainage in the Temescal Canyon. Policies for this area are intended to protect open space and maintain the natural state of the wash while continuing to allow for recreational use.
- **Corona Municipal Airport Influence Area** is intended to protect flight paths, ensure public safety, and ensure compliance with airport land use compatibility criteria established by the Riverside County Airport Land Use Commission. Properties in compatibility zones are subject to land use and operational issues.

General Plan Land Use designations for the General Plan update are shown on Figure 2-1, *Land Use Plan – City of Corona*. General Plan designations for Corona's SOI areas are shown on Figure 2-2, *Land Use Plan – Corona SOI*

Figure 2-1 Land Use Plan – City of Corona



Legend

- Agriculture
- Estate Residential
- Rural Residential
- Low Density Residential
- Low Medium Density Residential
- Medium Density Residential
- High Density Residential
- Urban Density Residential
- General Commercial
- Office Professional
- Mixed Use Downtown
- Mixed Use: Commercial/Residential
- Mixed Use: Industrial/Commercial
- Light Industrial
- General Industrial
- Open Space General
- Parks & Open Space Recreational

Public and Institutional

- School
- Fire Station
- Utility
- Sphere of Influence Areas
- City Boundary

Source:
City of Corona, 2018

CORONA General Plan

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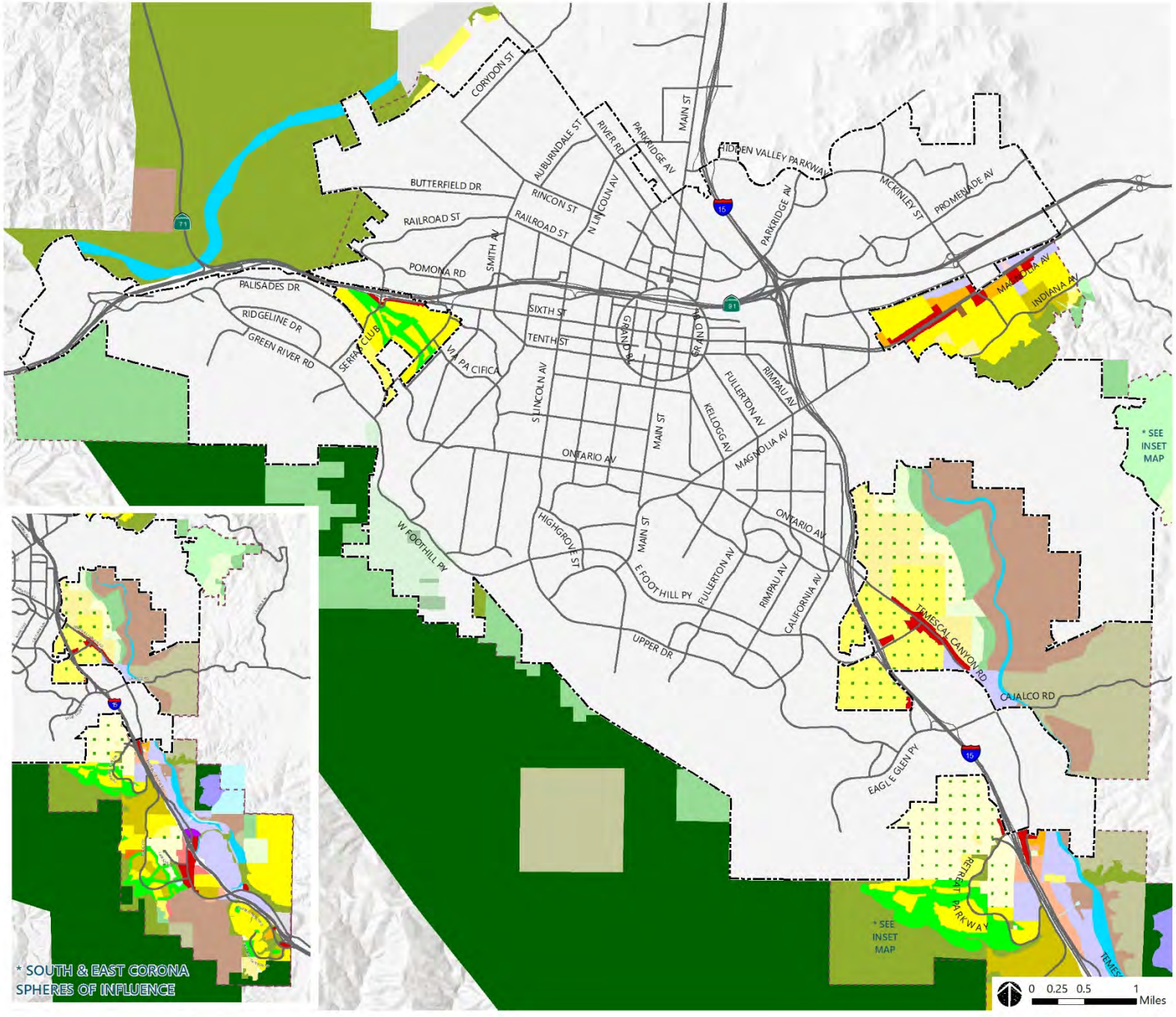


Figure 2-2 Land Use Plan – Corona SOI

Legend

Rural Community

- Estate Density Residential
- Very Low Density Residential
- Low Density Residential

- Estate Density Residential
- Very Low Density Residential
- Low Density Residential
- Medium Density Residential
- Medium High Density Residential
- High Density Residential
- Very High Density Residential
- Highest Density Residential
- Commercial Retail
- Commercial Tourist
- Commercial Office
- Community Center
- Light Industrial
- Heavy Industrial
- Business Park
- Public Facilities
- Rural Residential
- Rural Mountainous
- Agriculture
- Conservation
- Conservation Habitat
- Open Space Recreation
- Open Space Rural
- Water
- Mineral Resources
- City
- City Boundary
- Sphere of Influence Areas

Source:
Riverside County, 2017

CORONA General Plan

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City of Corona General Plan and Zoning Code

Title 17 of the Corona Municipal Code, the Zoning Code, implements the land use designations in the City's General Plan. Table 2-1, *General Plan Land Use Designations and Implementing Zone*, provides a crosswalk between general plan land use designations and implementing zones. Acreages are also provided to clarify the extent of land uses. It should be noted that the City also has 32 specific plans that have their own zoning designations.

Table 2-1 General Plan Land Use Designations and Implementing Zones

General Plan Land Use Designations	Implementing Zone(s)*	Permitted Uses	Acres
Rural Residential (I & II)	R-1A; R-1-20	Large lot single-family homes, light agriculture uses (orchards, berry and bush crops, etc.), accessory buildings	554
Estate Residential	A-14,4; R-1A R-1-20, R-1.12	Single-family homes, light agriculture uses (orchards, berry and bush crops, etc.), accessory buildings	2,093
Low Density	PCD. R-14.4 R-1-9.6; R-1-8.4; R-1-7.2	Single-family dwellings, duplexes and multiple-family residences, and accessory dwelling units.	4,766
Low-Medium Density	PCD R-2	Single- or low-density multiple-family dwellings with either one or more dwellings on the same lot	1,105
Medium Density	PCD; R-2; R-3; and -R3-C R-G, and MP	Attached housing such as townhomes and duplexes, as well as detached single-family dwellings	1,243
High Density	PCD R-3 MP	Multiple-family dwellings, including apartments, condominiums, and duplexes	695
Urban Density Residential	UDR	Multiple-family units through innovative design within the City's opportunity districts	115
Mixed Use I	Various zones by specific plan	Commercial and residential	172
Downtown Commercial/ Mixed Use	Various zones by specific plan	Exclusively retail commercial or mix of commercial and residential	43
Mixed Use II	C-3 and LI by a specific plan)	Exclusively light or light industrial and commercial	1,684
General Commercial	C-2 C-3	Supermarkets, department stores, apparel stores, theaters, and nonretail uses such as offices and banks	956

Table 2-1 General Plan Land Use Designations and Implementing Zones

General Plan Land Use Designations	Implementing Zone(s)*	Permitted Uses	Acres
Office Professional	C-P	General business offices, banks, finance, insurance, and real estate offices, medical offices, and professional offices	117
General Industrial	M-2 M-3 M-4	Manufacturing, construction, wholesale trade, transportation, warehousing, vehicle storage, and related services	2,068
Light Industrial	M-1 M-4	Low-intensity, nonpolluting manufacturing, research and development, e-commerce, wholesale, and distribution facilities	1,159
Agriculture	A, A-14.4 R-1-12.0 R-1-9.6	Agriculture activities, such as citrus crops, housing and ancillary facilities	231
Open Space General	OS Open Space	Permanently protected land for habitat, topography, scenic quality, public safety, or comparable purpose	2,449
Open Space Recreation	OS Open Space	Lands committed as public or private recreation including a golf course	707
Public and Institutional	QP Institutional Uses Zone	Park, school, civic, fire station, utility, and institutional use	815

Sources: General Plan Land Use Categories, 2007; Corona Zoning Code 2017; Corona GIS 2017

Notes:
PDC = Planned Community Development Zone
MP = Mobile Home
QP = Quasi-Public
TC = Transitional Commercial

* The City of Corona also has 31 specific plans, each with various zones that are consistent with the above general plan land use designations

County of Riverside General Plan and Zoning Code

The county zoning code implements the adopted land uses of the County general plan and area plans. Zoning designations allow for consistent land uses such as single-family residential, agriculture, mobile homes, commercial and service uses, industrial, and areas regulated by specific plans. The County of Riverside has also adopted several specific plans for Corona's SOI; the main undeveloped projects are discussed later in this chapter. Further detail on the county's zoning can be found online at http://planning.rctlma.org/ZoningInformation.aspx.

2.2.2 Existing Conditions

This section describes and evaluates existing land uses in the City of Corona and SOI to develop a baseline for the environmental impact report and determine the impact of future development in accordance with the adopted land use plan.

Existing Land Use: City of Corona and SOI

An extensive survey was conducted to identify existing land uses in the City of Corona and its sphere of influence that would provide a foundation for the General Plan EIR. Table 2-2, *Existing Land Uses: Corona and Sphere of Influence*, details existing land uses. Figure 2-3, *Existing Land Uses: City of Corona*, illustrates the location of existing uses.

Table 2-2 Existing Land Use Summary: Corona and SOI

	No. of Housing Units	No. of House-holds	Total Pop-ulation	Nonres-idential Sqft.	No. of Jobs
Corona	**48,532**	**46,979**	**165,366**	**52,278,846**	**70,972**
Single-Family Residential	32,943	31,889	112,249	—	
Multiple-Family Residential	14,199	13,745	48,381	—	
Mobile Homes	1,389	1,345	4,733	—	
Airport	—	—	—	385,649	50
Commercial	—	—	—	11,738,816	23,479
Office[4]	—	—	—	2,586,253	7,757
Industrial	—	—	—	32,036,533	32,639
Parks, Cultural, Civic, Educational	—	—	—	5,290,841	6,786
All Other	—	—	—	240,754	261
Sphere of Influence	**10,896**	**10,351**	**37,264**	**3,436,459**	**4,346**
Single-Family Residential	9,820	9,329	33,584	—	—
Multiple-Family Residential	432	410	1,477	—	—
Mobile Homes	642	610	2,196	—	—
Airport	—	—	—	—	—
Commercial	—	—	—	490,531	1,172
Office[4]	—	—	—	1,890	31
Industrial	—	—	—	2,392,643	2,562
Parks, Cultural, Civic, Educatnl	—	—	—	551,395	581
All Other	2	2	7	—	—
Total (City + SOI)	**59,428**	**10,351**	**202,630**	**55,715,305**	**75,318**

Source: SCAG Existing Land Use Inventory, revised by PlaceWorks, DEIR, 2019
Notes: For discussion of specific categories and details, please refer to the DEIR, 2019.

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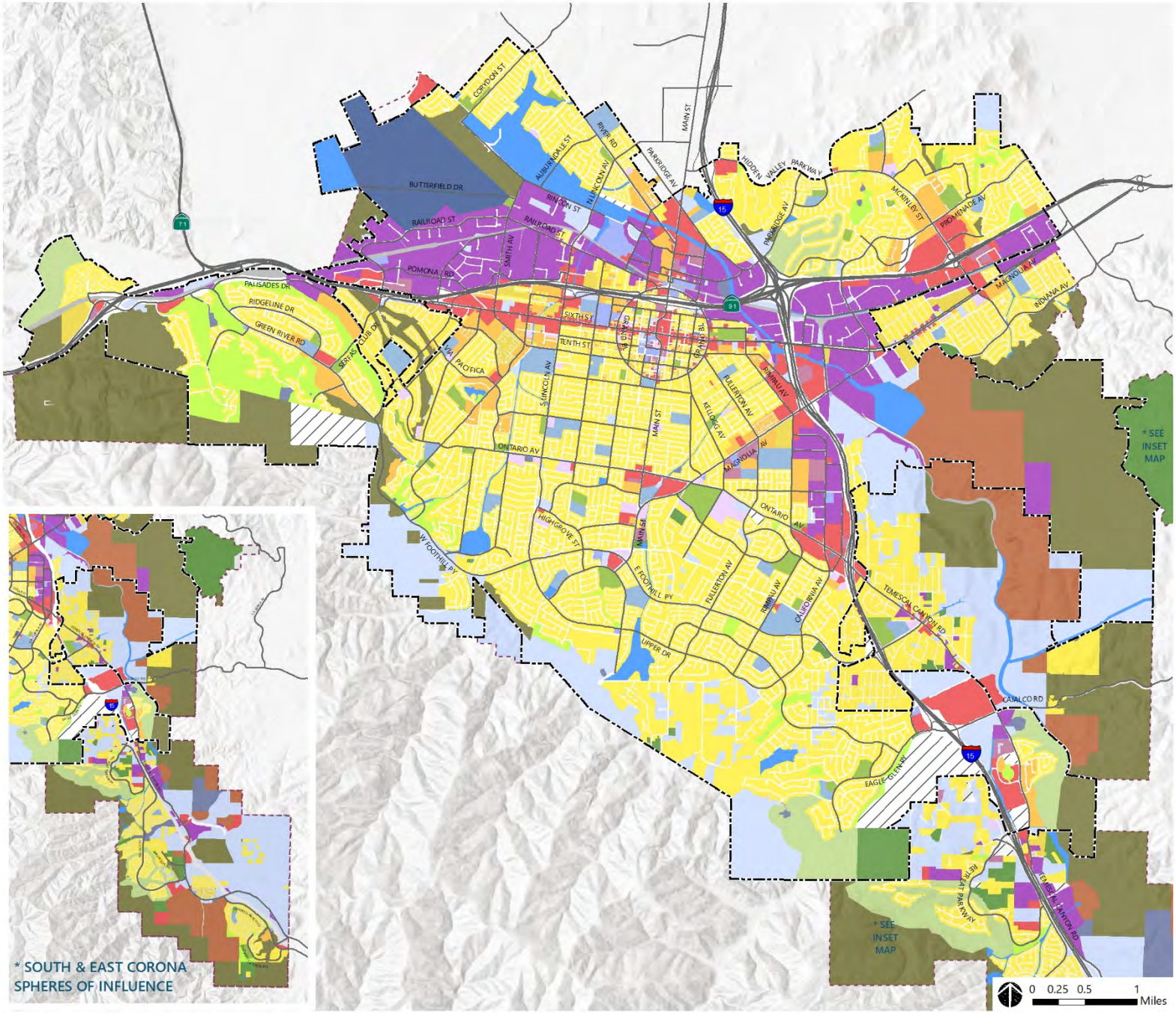


Figure 2-3 Existing Land Uses in Corona and SOI

Legend

- Single-Family Residential
- Multi-Family Residential
- Mobile Homes
- Airport
- Commercial
- Office
- Industrial
- Mining
- Educational Facilities
- Religious Facilities
- Public Facilities
- Public Open Space/ Parks
- Golf Course
- Agriculture
- Natural Open Space
- Open Space
- Rail Road
- Right-of-Way
- Under Construction
- Utility Facilities
- Vacant
- Water/Flood Control

Source:
PlaceWorks, City of Corona, 2017

CORONA General Plan

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Future Development Opportunities

The Corona General Plan established a vision and land use plan for buildout of the city. To guide this effort, the general plan identifies "opportunity districts and sites" for future residential and nonresidential development. Since the early 2000s, much of the vacant land for commercial and industrial has been developed. Remaining vacant land resources are concentrated along the City's periphery or within several specific plans. Opportunities for recycling also exist within commercial and industrial districts.

Table 2-3, Corona *Opportunity Districts and Sites*, details the largest remaining areas where residential, commercial, and industrial development is envisioned through buildout. Additional residential infill sites are also available for development.

Table 2-3 Corona Opportunity Districts and Sites

Sites	Description	Status
City of Corona		
Downtown Core	The Downtown Core Plan is intended as the centerpiece of civic identity, activity, culture, and governance. Land use plans encourage integrated mixed use commercial and residential structures.	Mall revitalization in progress
North Main Street	North Main Street is slated for revitalization focusing on integration of mixed-use to better integrate commercial and residential uses near the Metrolink station that will make the corridor a vital center of offices, entertainment, and retail activity.	Station revitalization complete, projects complete
East Sixth Street and Magnolia Corridors	Encourages revitalization of underutilized commercial and industrial sites for adaptive reuse and infill. The intent is to provide an integrated mix of vital commercial, office, and industrial nodes.	Development has occurred on several parcels
Eagle Valley (East SOI)	Plans for the East Valley have not been determined. The area is denoted by significant open space, natural topography, and lack of infrastructure. Future development is contingent on a specific plan.	Area is currently undeveloped
Industrial District	A cluster of adjacent parcels within the industrial district, bordered by Smith and Sherman Street, contain older industrial uses built in the 1960s and 1970s which are ripe for revitalization/reuse. These uses will likely recycle over the next twenty years.	Development interest only
Skyline Heights	Skyline Heights allows 292 single-family homes in an undeveloped hillside to the south/southwest of the Foothill Parkway westerly extension. This area was annexed into the City in 2017.	Approved, not developed

Source: City of Corona, 2017; Temescal Canyon Area Plan, 2016.

Significant Specific Plan Areas

The Corona General Plan encourages the use of specific plans to guide development of opportunity districts and sites. Specific Plans are intended to foster cohesive and well-designed neighborhoods and commercial and industrial districts. Table 2-4, *Specific Plans Undeveloped or Under Construction*, lists adopted specific plans within the City and its SOI areas and the status on the development of those specific plans. In addition to the specific plan areas listed above, additional development opportunity areas are also available throughout the Temescal Canyon Area.

Table 2-4 Specific Plans Undeveloped or Under Construction

Spec. Plan	Description	Status
City of Corona		
Arantine Hills SP-09-001	Formerly the McMillan site, the Arantine Hills SP is for a 276-acre area in southeast Corona. The Plan allows up to 1,806 units (includes 185 age-qualified units), 10 acres of commercial uses, and 87 acres of parks and open space.	Under construction
Dos Lagos SP-99-03	Dos Lagos is a 543-acre site in southeast Corona at the I-15. Development includes a mix of residential densities for 1,544 units, mixed commercial/retail, a golf course, and 500,000+ square feet of office buildings.	Mostly developed
Sierra Bella SP04-001	Sierra Bella is a proposed hillside village of 249 estate homes oriented on 327 acres of land in Corona. No nonresidential land uses are proposed in this plan. Significant acreage is proposed for natural open space.	Under construction
Green River Ranch SP-00-001	Green River Ranch is located on the south side of SR-91 at Green River Road. This project allows up to 520,000 square feet of nonresidential land uses and limited residential. The mixed use designation offers for flexibility in uses.	Approved, not developed
Sphere of Influence		
Serrano Commerce SP-353	The Serrano Commerce Center Specific Plan is a planned commerce area of 490 acres in Temescal Canyon. This plan allows for up to 7 msf of building space, including 372 acres of light industrial uses and a small retail center.	Approved plan, not built
Terramor (Toscana) SP-327(A1)	The Toscana SP covers 961 acres. Of that total, 300 acres are designed for up to 1,443 homes. The plan allows for 544 acres of open space habitat and additional areas for recreational amenities.	Under construction
Home Gardens Mixed Use District	The County approved a mixed use overlay to apply to properties along Magnolia Avenue in Home Gardens. Future development of the sites could result in up to 507 more housing units and 1,730 more persons	Approved but not developed

Source: City of Corona; Riverside County Planning Department, 2018.

2.3 COMMUNITY DESIGN

The physical characteristics of a city contribute to its identity and overall sense of place. Goals and policies regarding design are established to guide decision makers when considering things as small as trees and benches and as big as street pattern and connectivity. At the heart of community design is human activity. Who will use these spaces? How will they be used? This section describes the significant physical and policy-related design features that influence community development in Corona.

2.3.1 Regulatory Framework

Corona 2004 General Plan

Local governments are given flexibility in the organization of general plan elements and may address other topics aside from the eight mandated elements—noise, land use, safety, open space, conservation, circulation, housing, and environmental justice. Because of the importance and value of urban form, character, and cohesiveness, the City prepared a community design element as part of the City's 2004 General Plan. Under state statute, this element carries the same weight of law as the legally required elements.

The community design element begins with an introductory statement of the value of design. Specifically, Corona is an attractive and well-designed city that is uniquely identifiable in the region and whose aesthetic strengths contribute to a high quality of livability for residents and imageability for visitors. Design quality is achieved through the City's streetscapes, entry treatments, architecture, signage, and physical form and architecture of private buildings and public places.

Five goals provide the community design planning framework for Corona:

» **Goal 2.1.** Public street landscapes that unify the City of Corona and contribute to the unique identity of its neighborhoods, districts, and public places.

» **Goal 2.2.** Entries that are well-defined by signage, landscape, lighting, and other visual landmarks that provide a clear sense of arrival into and identity for Corona.

» **Goal 2.3.** Well-designed public signage that identifies key City districts, public facilities, and facilitates wayfinding.

» **Goal 2.4.** A City whose urban form and community character are defined by its interconnected parklands and open spaces.

» **Goal 2.5.** A City of well-designed residential neighborhoods, commercial districts and corridors, industrial districts, and civic places that are uniquely identifiable in their building form, public places, and landscapes contributing to a high quality of life for residents and positive image for visitors to the City.

Additional design guidance is addressed through citywide design guidelines for residential, commercial, and industrial land uses, described in the following section, as well as individual specific plans approved for specific areas of Corona.

City of Corona Design Guidelines

Citywide design guidance is provided through two primary documents, Residential Development Design Guidelines and Industrial Development Design Guidelines. Additionally, adopted specific plans for certain areas of the city have design guidelines for that planning area. To complement the emphasis on building design, the City also adopted Landscape Design Guidelines for Commercial, Industrial, and Residential use. The guidelines accompany mandatory site development regulations in the Zoning Ordinance with Specific Plans also regulating design guidelines for certain areas. These documents also provide procedural guidance for applicants and guidelines for City staff in reviewing and approving designs and verifying compliance.

Residential and Industrial Development Design Guidelines

Residential and Industrial Development Design Guidelines are a reference for architects and designers building quality projects that add value to the community. The guidelines complement the site development regulations in the City's zoning ordinance and specific plans. The guidelines encourage the highest level of design quality while providing flexibility to encourage design creativity and innovation to accommodate difficult or unusual site design situations. Architectural and planning guidelines support Corona's goals and objectives for promoting high quality development.

Residential design guidelines apply to all new residential projects, individual custom homes, and additions to historic homes. An important goal of the single-family site guidelines is to create functional and visual variety along streets. For multifamily development, design should focus on maximizing open space by clustering units into small neighborhood groupings to maintain a pedestrian scale. The guidelines cover planning topics such as lot widths, orientation, setbacks, garage placement, and street layout. Architecture topics include façade and roof articulation, structure design, scale, walls and fences, materials, windows, doors, equipment screening, etc.



New and infill development projects must consider the planning and architecture guidelines when designing residential projects in the City of Corona.

Residential and Commercial and Industrial Landscape Design Guidelines

Similarly, the industrial architectural and landscape design guidelines provide guidance for planning and architecture features with the goal of providing for well-designed, attractive, quality industrial development. The guidelines identify key features of architecture and site design elements that are important to the City. The document also provides examples of desirable architectural design methods and building characteristics. Other considerations such as parking, loading, outdoor storage, entrance design, signs and lighting are covered.



Architectural building details such as color, articulation, and window placement create interest and draw attention to the building entry as identified in City design guidelines.

Landscaping is also an important part of the City's built environment. Well-designed landscaping can assist in softening the impact of developments and creating a more human-scale environment. Residential, commercial, and industrial landscape design guidelines were adopted by the City in 2010 with the goal of creating pleasant and attractive properties throughout the city. More specifically, the guidelines are intended to promote a sense of community, create a more pleasant living and working environment, and promote water and resource conservation.

The City's current landscaping guidelines cover a range of topics, including: design features, planting plan requirements, drainage, and irrigation. When reviewing plans the City will consider the proposed combination of water-conserving trees, shrubs, subshrubs, vines, groundcover, and accent lighting. Additionally, landscape projects are encouraged to use low-impact development methods, including porous paving, stormwater cisterns, extensive bioswales, and roof gardens. Hardscape site amenities may include boulders, recycling fountains, walls, art/sculptures, fences, and benches.

Community Character

A lasting impression of Corona is the lushness and diversity of its landscape. From freeway entries to neighborhood cul-de-sacs, industrial parks to neighborhood entries and historic districts, planted parkways to old palm-lined drives, the City is denoted by the intensity and scale of its greenery. This is most evident when viewing the City from a distance, when trees collectively are viewed as an urban forest. The City's primary entry at Sixth Street is well marked with street trees and signage at the I-15 and SR-91. Certain streets have received special landscape treatment due to their importance and proximity to destinations deemed important to the City's image.

Corona's skyline trees provide an immediate sense of place, reinforcing the importance of public landscaping to the character of the community. The combination of street trees and landscaped setbacks in Corona create a pleasant shaded environment for pedestrians and vehicles. The City has established landscape assessment districts to maintain streetscapes, lighting, parkways, and medians. These districts primarily cover neighborhoods in south, west, and northeast Corona. Community landscape may be best appreciated from Green River Road, Ridgeline Drive, Foothill Parkway, Upper Drive, Promenade Avenue, McKinley Street, and the south side of Hidden Valley Parkway.



Drought tolerant vegetation can improve the aesthetics of Corona streets.

In the Downtown, wide and shaded streets, broad lawns, old streetlights, mature vegetation, and a variety of architectural styles all contribute to the sense of Corona's history. In addition to the historic buildings within the downtown area, other physical elements that evoke Corona's history include old curbs and sidewalks, streetlights, stone walls and metal fences, the mature trees of Grand Boulevard and other downtown streets, and the tall palm trees along Chase Drive.

2.3.2 Area Typologies

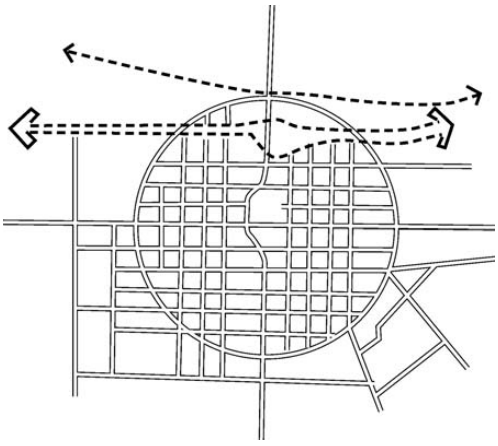
Corona's structure, form and character can be categorized into five typologies—the historic core, suburban neighborhoods, commercial nodes, industrial corridors, and mixed-use districts. These typologies are used to generally categorize development throughout the area by physical features such as character, form, and structure.

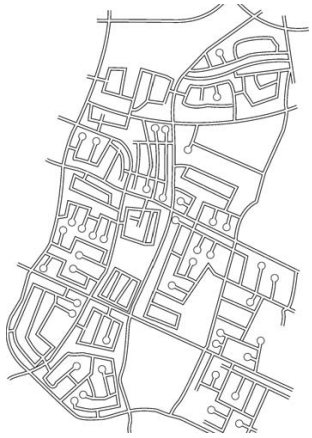
Historic Core

The heart of Corona's historic core is Grand Boulevard, a circle street that is three miles in circumference, one mile in diameter, and 100 feet wide. Varieties of ornamental trees along its periphery create a sense of place and identity. Unifying urban design elements in the historic core—landscaping and street lights, compatible building heights, and walkable blocks—complement the historic buildings. Two principal thoroughfares, Main Street (north-south) and Sixth Street (east-west), intersect at the center of the circle. The 91 freeway and railroad tracks cross Grand Boulevard to the north; Magnolia Avenue runs diagonally through central Corona.

Inside the circle, a grid of pedestrian-oriented, rectangular blocks and streets create neighborhoods and small commercial nodes, as shown on Figure 2-6, *Street Network and Block Structure*. Most residential neighborhoods contain single-family and low-density multifamily homes, most of which are accessed by a rear alley. Somewhat larger, odd-shaped lots—along the periphery and facing the circular Grand Boulevard—provided the opportunity for the stately homes that give this area its historic residential feel. Architectural styles for this area are discussed in other reports.

Historic homes meet contemporary buildings along Main and Sixth—the commercial core of this area. Corona Regional Medical Center, medical and professional offices, the library, and the Corona Mall make up this commercial node. The surrounding neighborhoods contain historic homes of varying vintages, and the streets and frontages are pedestrian in scale. As shown in the diagrams below, the street network and grid pattern have been maintained within the Grand Boulevard circle. Moving outward from the circle, the street pattern introduces more typical suburban street types, including cul-de-sacs, greater setbacks, and longer blocks.





Residential Neighborhoods

The postwar building boom set the stage for suburban neighborhood development. Specific plans were used by the City and county to guide the development of large areas, typically referred to as master-planned developments. Rather than subdividing the land and selling it to individual buyers, the land is planned as a community, including housing, schools, parks, and sometimes retail. As a planning tool, a specific plan lays out a development scheme, establishes development standards, and identifies public facilities and capital infrastructure required to support the project.

Typical of southern California suburban subdivisions, most of Corona's suburban neighborhoods contain single-family detached units, with some clusters of duplexes, townhomes, condominiums, and apartments. Their architecture largely echoes design styles used throughout the region, with Spanish and Mediterranean influences, surfaced with stucco, and painted in earth tones. Dedicated common open space creates opportunities for community gathering spaces. Suburban neighborhoods are generally located to the periphery of the City's historic core, south of Ontario Avenue, west of Lincoln Avenue, and in the northeast and northwest corners of the City.

Residential areas outside the historic core show a typical suburban neighborhood form characterized by inward orientation of housing on cul-de-sacs and curvilinear streets. Community-serving commercial centers exist at major street intersections of the primary entries and in most neighborhoods. Typically, these contain a mix of auto-oriented, local-serving retail and convenience uses with a major anchor tenant. Generally, buildings are set back from the street with ample parking between the building and street frontage. Recent developments such as Dos Lagos have put an emphasis on creating identity and character while providing a greater variety of housing and better connections between residential and non-residential uses.



Commercial and Mixed-Use Nodes

In addition to the neighborhood commercial centers found throughout the suburban areas, the City of Corona has a number of commercial employment nodes that also serve as major employment centers in addition to meeting local and regional shopping needs. These nodes make up the areas of Sixth Street and Main Street, Magnolia Avenue and Interstate 15, Ontario Avenue and Interstate 15, Cajalco Road and Interstate 15 (The Crossings), and Dos Lagos just south of the Crossings. These areas are a mix of retail, commercial, service, and office uses, depending on the location.

Many of Corona's commercial nodes are characterized by large parcel sizes and deep lots of varying sizes. Site design is similar for the large and small parcels—typically buildings are at the rear of the property and surface parking is provided between the structures and street frontage. Having also developed during the post-war boom, the older commercial shopping centers and office/business complexes developed during the postwar boom as independent, auto-oriented destinations with limited continuity in design, architectural articulation, landscape, or amenities. Few pedestrian walkways or public spaces provide internal connectivity. Big-box buildings are occasionally broken by freestanding pads for business along frontages.

With the adoption of the 2004 General Plan, the City created a mixed-use land use designation that allowed for and encouraged mixed uses. While certain areas of the City have proven difficult to build mixed use projects, other areas have seen significant success. Newer developments such as Dos Lagos, and North Main have placed more emphasis on mixing residential and commercial/office developments into larger horizontally mixed-use projects. Both projects have emphasized public spaces and the pedestrian environment. These efforts have created mixed-use nodes that offer an exceptional quality of life for residents.



The retail center at The Crossings integrates gathering spaces and pedestrian access while still accommodating circulation needs for automobiles.

Industrial Corridors

The fourth major element contributing to Corona's urban form and character is the City's industrial corridors and districts. As shown in Figure 2-7, *Development Footprints*, two major industrial corridors are evident. The first is a broad corridor that parallels the SR-91 and railroad across the north-central part of the City. It begins at the Prado Basin and extends east to the I-15/SR-91 interchange and south to Ontario Avenue. The second industrial corridor is in Temescal Valley along Interstate 15. These corridors include large parcels developed within a larger "super-grid" network of streets, containing industrial uses with variable physical form and quality. Older industrial uses typically consist of large, box-like buildings with limited architectural treatment. Many sites are not landscaped, have minimal decorative screening or walls, and the area lacks unifying design elements, streetscape, landscape, or signage.

In 1999, the City adopted industrial building and landscaping design guidelines to provide greater oversight and encourage quality projects that will add value and visual interest in Corona. The past few decades have seen portions of both industrial corridors redeveloped for multitenant industrial centers and business parks. Largely, these have been designed to convey a unified high-quality environment through the use of articulated and modulated building elevations, integrated signage, and extensive site landscape. Common street trees, public signage, and in some cases, architectural design elements contribute to a sense of place and identity.



Although generally well maintained, some of the older industrial areas of the City and SOI areas lack the amenities found in many newer industrial and business park developments.

Figure 2-4 illustrates the street network and block structure of Corona. Figure 2-5 shows the development footprint of different areas of Corona.

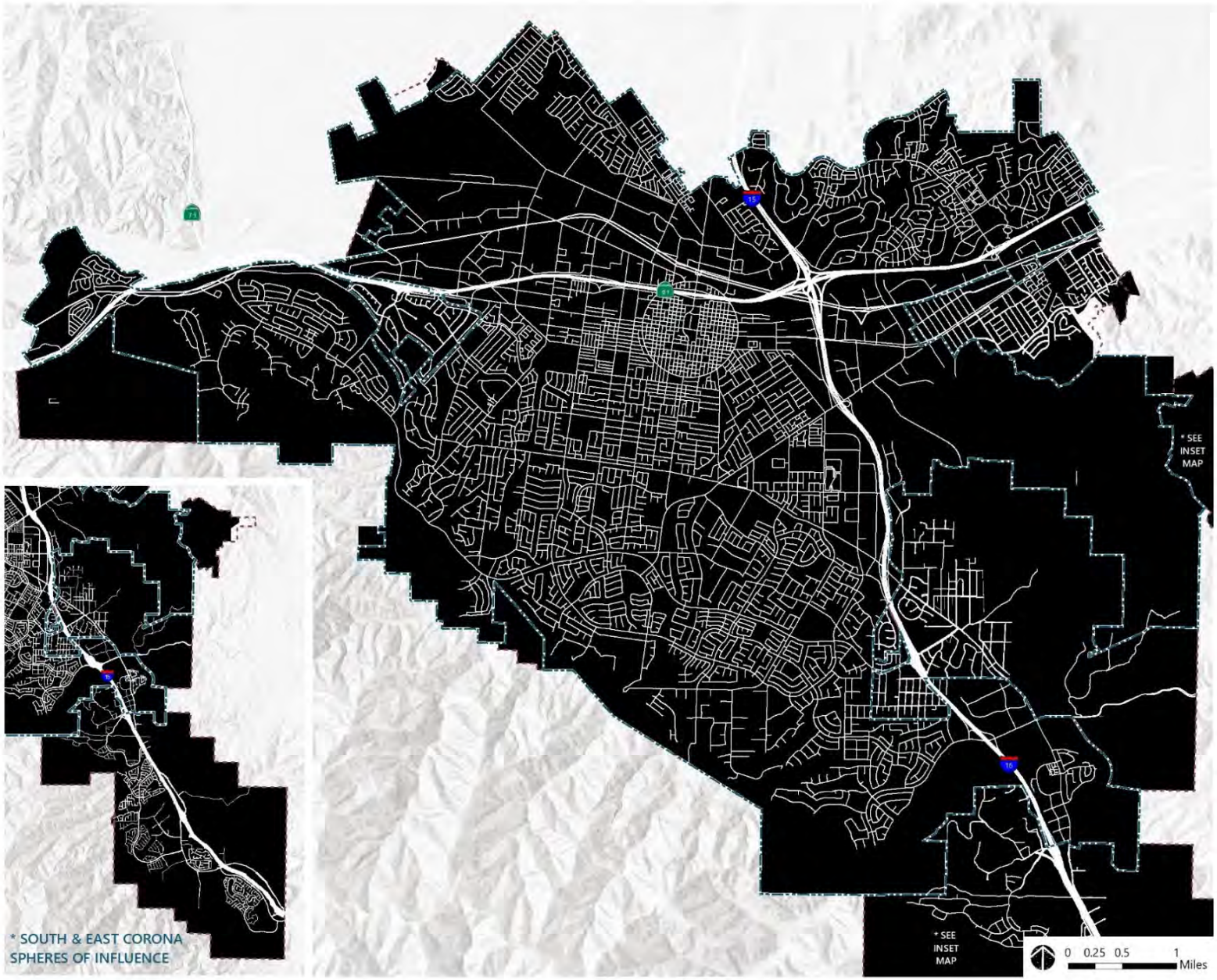


Figure 2-4 Street Network & Block Structure

Legend

- City of Corona & SOI Areas
- Streets
- City Boundary
- Sphere of Influence Areas

Source: PlaceWorks 2018

CORONA General Plan

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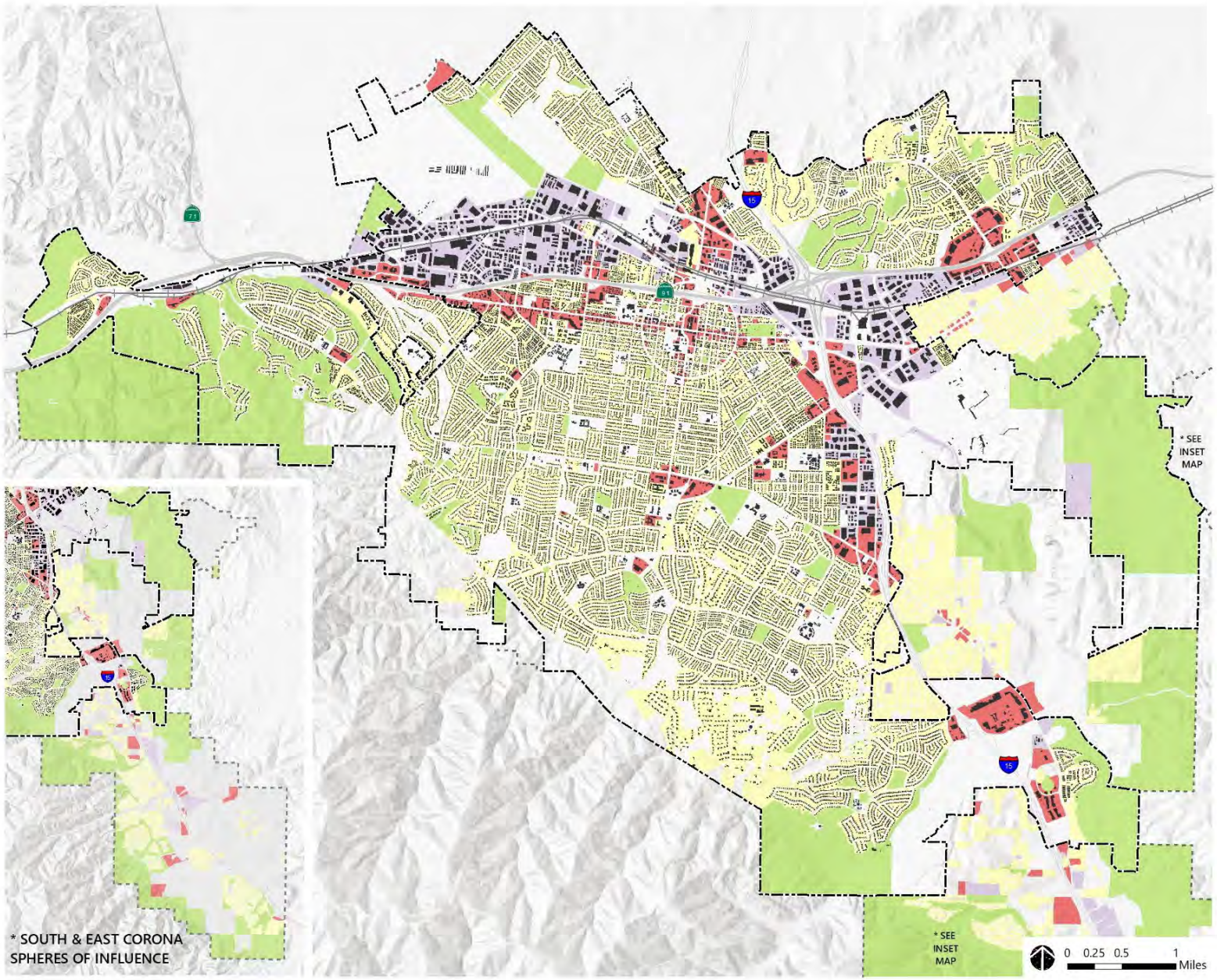


Figure 2-5 Development Footprint

Legend

- Building Footprints
- Residential
- Commercial & Office
- Industrial
- Open Space
- City Boundary
- Sphere of Influence Areas

Source: PlaceWorks 2018

CORONA General Plan

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2.4 HISTORIC AND CULTURAL RESOURCES

This section describes 1) the regulations addressing historic resources and 2) existing historic and cultural resources in Corona. This chapter and the technical reports prepared for this general update will provide the environmental setting for the EIR and General Plan, and the goals, policies, and programs for the general plan.

2.4.1 Introduction

The City of Corona dates to the earliest days of Riverside County, more than a century ago. The City's historic structures and sites as well as the features of its natural environment give the City its unique identity, charm, and orientation. Significant efforts have been undertaken to preserve these historic features. When well preserved and maintained, these historical features provide the community with a sense of permanence, which fosters civic pride and stewardship among residents and business. Sustaining the city's heritage has thus become a priority for Corona.



The City of Corona's historic civic center is a source of local pride.

This section provides an overview of the cultural resources in Corona. Information about historic and other cultural resources was derived from the 2004 technical background report for the general plan, the Corona Historic Preservation Society and other sources of historic information in Corona, and the "Corona General Plan Update: Cultural Resources Technical Report" prepared by SWCA in 2018. Archaeological and paleontological resources are addressed in technical reports for this general plan.

2.4.2 Regulatory Setting

Federal, state, and local governments have developed laws and regulations designed to protect significant cultural resources. The National Historic Preservation Act and the California Environmental Quality Act (CEQA) are the basic federal and state laws governing preservation of historic and archaeological resources of national, regional, state, and local significance.

Federal Regulations

The National Historic Preservation Act of 1966, as amended (16 USC § 470f), is one of the fundamental laws that protect cultural resources. This law requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Code of Federal Regulations, Title 36 Protection of Historic Properties, contains implementation measures. The law established the National Register of Historic Places to recognize resources associated with the country's history and heritage. Guidelines for nomination to the National Register are based on the site, place, or structure's significance in American history, architecture, archaeology, engineering, or culture, which is present in resources that possess integrity of location, design, setting, materials, workmanship, feeling, and association.

California Regulations

State historic preservation regulations include statutes and guidelines in §§ 21083.2 and 21084.1 of CEQA (Public Resources Code) and § 15064.5 of the CEQA Guidelines. CEQA requires lead agencies to carefully consider the potential effects of a project on historical resources. A "historical resource" includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript that is historically or archaeologically significant (Public Resources Code § 5020.1). Advice on procedures to identify such resources, evaluate their importance, and estimate potential effects is given in several agency publications, including OPR. In addition, California law protects Native American burials, skeletal remains, and grave goods regardless of their antiquity and requires the sensitive treatment and disposition of those remains.

California Register of Historic Resources

The State Historic Preservation Office also maintains the California State Register of Historic Resources (CRHR). The CRHR is an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change. Properties listed on the National Register are automatically listed on the CRHR, as are State Landmarks and Points of Interest. The CRHR can include properties designated under local ordinances or identified through local resource surveys. Corona has historic landmarks and districts listed on the California Register of Historic Resources. Other local properties recognized under the California Points of Historical Interest program, identified as historically significant, or designated as landmarks may be nominated for the CRHR.

City Policies and Programs

The City of Corona has increasingly undertaken programs and actions in support of historic preservation. A complete listing of these actions is in Appendix A of the Historic Preservation Plan. A sample of significant programs includes the following.

Corona Historic Resources Ordinance

The Corona Historic Resources Ordinance—Chapter 17.63 of the Corona Municipal Code—was established to promote the recognition, preservation, and continued viability of historic resources in Corona in the interest of prosperity, social and cultural enrichment, and the general welfare of the people of Corona. It provided for the establishment of the Corona Register of Historical Resources and Heritage Inventory. It also authorized the property preservation/tax reduction program, historic markers program, and historic design guidelines, which set the standards by which buildings are evaluated for the Corona Register of Historic Resources and Heritage Inventory.

California Historic Building Code

The City adopts the California Historical Building Code (Health and Safety Code §§ 18950–18961) as part of its municipal code, which continues to be updated triennially as part of the State's mandatory update to the California Building Code. The CHBC is intended to assist in preserving California's architectural heritage by recognizing the unique construction issues inherent in maintaining historic buildings and adapting them for reuse while preserving their unique historic qualities. The CHBC provides alternate building regulations for permitting repairs, alterations, and additions needed for the preservation, rehabilitation, relocation, related construction, change of use, or continued use of a "qualified historical building or structure."

Corona Register of Historic Resources

As a Certified Local Government (CLG) in the Federal Historic Preservation Program, the City has pledged its commitment to the preservation of historic resources. The Corona Register of Historic Resources was originally established in 2001 with nine landmarks, nine districts, and nine markers that identified sites of important historical/cultural interest. Since its establishment, the Register has been expanded to include more than 50 properties listed as local historic resources.

Property Preservation Program (Mills Act)

In 2002, the City established a Historic Property Preservation (Mills Act) program. Under this program, tax relief is offered for properties on the Corona Register, which in turn are maintained or restored in accordance with City design and historic building standards. Participation in the program by the owner is voluntary, and the minimum term of a preservation agreement is ten years with automatic annual extensions. The purpose of this program is to use the cost savings from the property tax and invest it into the ongoing preservation and maintenance of the historic resource.

Corona 2004 General Plan

The City has adopted a historic resources element and implementing ordinance. The purpose of the element is to identify key preservation issues facing the City, establish goals, and provide policies for the future management of historic resources in the City of Corona. The 2004 General Plan includes six goals related to historic resources:

- **Goal 4.1.** A comprehensive historic resource management program that identifies, designates, and protects those resources that are significant to the historic development, identity, and character of Corona.
- **Goal 4.2.** Promote the retention, restoration, adaptive reuse, and maintenance of historic structures and properties in a manner that will conserve the integrity of the resource in the best possible condition.
- **Goal 4.3.** Recognize the importance of archeological and paleontological resources and ensure the identification and protection of those resources within the City of Corona.
- **Goal 4.4.** Recognize, identify, and protect natural resources within the City for their historic and cultural value, and include these features in the historic resource management program.
- **Goal 4.5.** Foster increased community awareness and appreciation for Corona's unique heritage and the many cultural and historic resources found in the City.
- **Goal 4.6.** Build and strengthen preservation partnerships between the City and property owners, businesses, community organizations, educational institutions, and state and federal agencies.

Corona Municipal Code

Chapter 17.63 of the Corona Municipal Code, "Historic Resources," is intended "to promote the recognition, preservation, and viability of historic resources. This chapter uses a seven-pronged approach: 1) encouraging knowledge and pride in Corona's heritage; 2) providing a process and register for identification of resources; 3) establishing process for review of future developments; 4) encouraging and assisting private property owners with management and preservation of their historic resources and properties; 5) promoting the management and preservation of Corona's historic resources that reflect the city's diverse cultural, social, artistic, economic, engineering, political, and architectural heritage; 6) enhancing the City's cultural tourism; and 7) promoting historic resources for education and enjoyment.

The historic resources chapter also authorizes the City's property preservation and tax reduction program, historic markers program, and historic design guidelines. Finally, the code also sets forth the standards by which historic buildings are evaluated for the Corona Register of Historic Resources and the City's Heritage Inventory.

Local Cultural/Historic Resources and Organizations

Various cultural/historic preservation organizations, including nongovernmental organizations, work together to identify and preserve historic resources in Corona. A sample of these organizations is summarized below.

Corona Public Library Heritage Room

The City library plays an active role in providing opportunities to learn about Corona's history. Corona Public Library's Heritage Room (W. D. Addison Heritage Room) collects and preserves materials of local and regional importance. The collection includes photographs, rare books, newspapers, citrus labels, artifacts, etc. Many long-time, local residents have contributed items to the Heritage Room, which is open to all library patrons. The files also contain land records, clipping files, books, manuscripts, photographs, slides, databases, newspapers, and more

Corona Heritage Foundation (CHF)

The Corona Heritage Foundation works with community groups and the City to preserve and celebrate Corona's history. Heritage Park and Museum, one of the Foundation's first efforts, was dedicated in 2000 on the former Foothill Ranch—Corona's last citrus-packinghouse complex. The Heritage Park and Museum is intended to create, promote, and enhance community interest in Corona's history, including appreciation of its early industries, with special emphasis on providing a "living experience" of its citrus heritage. The Heritage Foundation has preserved several original buildings on the site and coordinates the Lemon Festival.

Riverside County Government (RCHC)

The Riverside County Historical Commission (RCHC) is responsible for advising the County of Riverside Board of Supervisors on historic matters within the County. The RCHC discovers and identifies persons, events, and places related to the County's historical importance, makes recommendations related to preservation of historic sites and structures, makes recommendations related to the County's historical parks, sites, and museums and encourages their development, and obtains assistance from related agencies. The RCHC administers the RCHL program. The goal of the RCHL program is to recognize places as part of the County's history, community, and lives.

Corona Historic Preservation Society (CHPS)

The CHPS is actively involved in the preservation of historic buildings and sites. CHPS conducts preservation activities every year, including a program that identifies important sites in Corona's history, which are adopted as part of the City's Historic Register/ Heritage Inventory. The CHPS continues to be a catalyst for preservation efforts, promoting nominations to the Historic Register and advising City officials. CHPS also supports programs and other efforts. Its website documents Corona's past, the Historic Site Marker Program, Vintage Home Tour, Heritage Home Awards, commemorative events, educational events, field trips, and preservation projects.

Corona History Association (CHA)

CHA advocates for the preservation of historic buildings and sites. CHA participates in community programs by providing educational lectures on Corona's past.

2.4.3 History of Corona

Corona's history passed through Native American inhabitation, Missionary influence, agricultural development, and eventual rapid urbanization. The City's growth and development is typical of many other areas in Southern California.

Early Settlements

The General Plan area is located within an ethnographic transition zone between three Native American groups: the Juaneño, the Gabrielino, and the Cahuilla. In the early 1700s, prior to the arrival of the Spanish, it is said that these indigenous people occupied the Corona area. These Native Americans used the hot waters in Temescal Canyon for bathing and religious ceremonies. Current residents and visitors still enjoy the rejuvenating mud baths and hot springs at the Glen Ivy Hot Springs resort. Luiseño religious ceremonies were strictly followed, and remnants of their artistic pictographs and petroglyphs can still be found in undeveloped areas.

During the early 1800s, lands within Corona were part of several Mexican land grants: Rancho La Sierra, Rancho Jurupa, Rancho El Rincon, and Rancho El Sobrante de San Jacinto. With the Treaty of Guadalupe Hidalgo (1848), Mexico ceded the Corona area to the United States with the rest of California. The Yorba, Serrano, Sepulveda, Cot, and Botiller families ranched sheep and cattle on the ranchos. In 1849, the California gold rush brought prospectors and settlers. The Butterfield Overland Mail Trail, a stagecoach service which delivered mail and passengers from St. Louis to San Francisco from 1858 to 1861, traversed the Temescal Valley, bringing an influx of people to Corona.

South Riverside



Corona is closely linked to the advent of the railroad and the phenomenal southern California real estate boom of the 1880s. In 1886, developer Robert Taylor persuaded his partners, Adolph Rimpau, George L. Joy, A. S. Garretson, and Samuel Merrill, to form the South Riverside Land and Water Company. Together they purchased 12,000 acres of prime agricultural land in Corona. Taylor and his partners knew that the Santa Fe Railroad would complete its new line, and it would run just north of the new town site. The rail line was important to Corona's emerging agriculture and industrial enterprises and its eventual township. The town's founders initially named their development "South Riverside" after the successful citrus community of Riverside.

On July 13, 1896, residents voted to incorporate and rename the community Corona, which is Spanish for "crown," in honor of the City's circular Grand Boulevard. On September 9, 1913, Corona residents celebrated with an international automobile race on Grand Boulevard. More than 100,000 people came to the town of 4,000 to watch the race. Races were held again in 1914 and 1916 but were discontinued after tragic deaths in 1916. The original Main Street and Sixth Street intersected at the center of the circle. The creation of a larger road network made Sixth Street part of the main road from Orange County to Riverside and the Coachella Valley. Main Street became the alignment for the original SR-71. Corona was located at these crossroads.

Lemon Capital

Agriculture has always played a significant role in Corona's history. As early as 1914, the land produced alfalfa, grain, sugar beets, tomatoes, beans, walnuts, and dairy land. However, the climate, soil, and railroad made Corona an ideal place to grow citrus. Most new settlers to the Corona area planted citrus trees in hopes of profits. New groves sprang up, and by 1912, 5,000 acres of lemon and orange groves were established. The abundant production of lemons and lemon products earned Corona the nickname "Lemon Capital of the World." By 1915 Corona businessmen formed the first Exchange By-Products Company in the nation. Sunkist eventually bought this co-operative in 1954, marketing lemon products for worldwide disbursement.





In 1961 citrus was still the backbone of Corona's economy, employing thousands. However, the citrus boom was not to last. Corona's agricultural industry faced a bleak future as rising production costs made the economics of farming fair or poor. The land required for agricultural production proved more valuable for other business ventures. The first plans were drawn to replace the groves with a master-planned development with approximately 12,500 dwelling units in south Corona. As residential, commercial, and industrial developments began to replace the citrus groves throughout southern California, Sunkist permanently closed the plant in 1982 due to insufficient local supply.





Sunkist Growers Historic Location, now Lucas Oil (courtesy CHPS)

Tin, Tile, and Mining Operations

Mining has been a part of Corona's history since 1859 when Daniel Sexton and W.W. Jenkins discovered the Temescal Tin Mines sometimes referred to Cajalco Tin Mines. Historically, the mining industry was secondary to the citrus industry. However, as citrus production declined, the mines remained and became a stronger focal point in Corona. This area was known for the only productive tin mine in the nation, and it produced tin until 1893. Other successful mining ventures included the Minnesota Mining and Manufacturing Company (previously Blue Diamond Mine), Pacific Clay Company, Redlands Clay Tile, Maruhachi Ceramics, Monier Roof Tile, and US Tile.



Blue Diamond Mine, Courtesy Corona Library

While these historic mining industries no longer remain, Corona's mining industries shifted to more economically valuable mineral resources used as building and construction materials. Corona gradually became known as the epicenter of the Temescal Valley Production Area, a vast area recognized for its regionally significant resources essential to construction industries in the Inland Empire. The City's mineral resources include clay (to make brick, pipe, tiles, etc.), limestone (to make Portland cement), sand and gravel (collectively "aggregates" for road base and concrete), specialty sands (for glass making and foundry molds), and commodities. Therefore, local mining industries have continued to play a key role in the local economy.

Postwar Suburbanization

Like many communities in southern California, the City enjoyed a construction boom after World War II and a significant demand for new housing. State Route 91 was constructed through Corona in 1962. Downtown Corona was subject to various urban renewal actions in the late 1960s and 1970s, with many of the original buildings demolished and a new commercial mall developed near Main Street and Sixth Street. Fortunately, a considerable number of the original residences and churches, and some

institutional buildings, remain intact and add to the varied architectural history of Corona. Renewal efforts continue today in the Downtown.

With continued growth in the Inland Empire as a whole and Corona's strategic location to labor markets, the City became known as a prime area for new housing. In 1986, the City adopted a general plan amendment for the then-agricultural south Corona area that identified land uses, development standards, and infrastructure needs. This change promoted the development of large undeveloped areas in southern Corona, more than doubling the size and population of the community. By 1990, the completion of the I-15 provided major access to Corona. Meanwhile, new commercial developments were built on Lincoln Avenue, on McKinley Avenue, and in Sierra del Oro, and the auto mall became a key to the City's fiscal strategy.

By 1996 Corona's population had topped 100,000, and the City ranked among the fastest growing cities in California. The City celebrated its centennial of incorporation in 1996 with events, parades, picnics, banquets, and ceremonial dedications.

Gateway to the Inland Empire

Corona has evolved from a few pioneers with a vision and a circular road in the desert foothills, to a citrus-based agricultural empire, to one of the primary commercial and industrial hubs of Riverside County. For nearly 120 years, Corona has reinvented itself and prospered, becoming the 31st most populated city in California. It provides a wide range of housing opportunities in quality neighborhoods. Employment options abound in industrial, manufacturing, retail, professional, and natural resource industries. Spanned by three major freeways and major roadways, residents and employers benefit from convenient access to the broader southern California region. The city has become known as the gateway to the inland empire.



2.4.4 Historical and Cultural Resources

The City of Corona and its planning area have a wealth of historical and cultural resources. These resources are listed below and described in the sections following.

» **Archeological resources.** Archaeological resources generally refer to any material remains of human life or activities that are at least 50 years of age and that are capable of providing scientific or humanistic understanding of past human behavior, cultural adaptation, and related topics.

» **Architectural character of urban and agricultural structures**. This refers to historic structures and other physical elements that evoke Corona's history. These include historic street lights, old sidewalks, stone curbs and walls, and palm trees. Accessory structures include barns, outbuildings, or rock irrigation channels.

» **Landmarks of national and statewide significance.** Landmarks are physical elements (e.g., buildings, structures, sites, or place) of Corona's history that provide the city with its unique civic identity and character. Landmarks that rise to state and national historic significance are eligible for additional designation.

» **Historic districts.** A geographic area designated as containing multiple historic resources (e.g., consisting of buildings, properties, structures, or sites) that collectively have a special character or value—historical, cultural, architectural, archaeological, community, or aesthetic.

» **Historical markers.** Historic markers generally refer to plates of metal, ceramic, stone, wood, or other material, typically attached to a wall, stone, or other vertical surface, and bearing text or an image to commemorate people, an event, a former use of the place, or some other thing.

Archeological and Paleontological Resources

Archeological resources refer to any material remains of human life or activities that are at least 50 years of age and that are capable of providing scientific or humanistic understanding of past human behavior, cultural adaptation, and related topics. These resources refer to artifacts left from the Native American habitation in Corona and include straw baskets, clay pots, tools, and stone grinding sticks. Prehistoric or paleontological resources, such as fossilized plants and animals, have also been discovered in some of the deeper canyons and drainages in the South Corona area.

In general, it has proven very difficult or impossible to establish definitively the precise location of Native American villages occupied in the Ethnohistoric period. Native American place names referred to at the time of Spanish contact did not necessarily represent a continually occupied settlement in a discrete location. Instead, in at least some cases, the communities were represented by several smaller camps scattered throughout an approximate geography, shaped by natural features and subject to change over generations. Many villages had long since been abandoned by the time ethnographers, anthropologists, and historians attempted to document them. Even with archaeological evidence, it can be difficult to conclusively establish whether any given assemblage represents the remains of the former village site.

Although the precise location of any given village is subject to speculation, it is clear that the banks of the major stream courses were home to many Native American settlements and place names. Similarly, foraging and seasonal camps surrounding springs would have almost certainly been regular occurrences and correlate more regularly with archaeological assemblages. Other clues about the approximate locations of the communities have been taken from where associations were described between the village areas with specific ranchos or land grants, as well as prominent natural features within those approximate boundaries.

The closest ethnographically documented village to the Corona's general plan area is known as Paxangna (alternative spellings and names include Paxauxa and Paxavxanga). As cited in the cultural resources report for the general plan, Kroeber (1925) refers to the village being located along Temescal Creek; O'Neil and Evans (1980) suggest the village was further south. Harrington's informant Jesus Jauro described the area around Corona as having been known as Shiishonga, which McCawley notes is similar to Shiisho'vet. In any case, it is likely that the region that includes Corona was once inhabited by Native Americans although the precise location is unclear.

The City of Corona and its sphere of influence (SOI) area are sensitive for existing archaeological resources. Cultural records search show 70 recorded resources within the City of Corona, of which 30 are prehistoric archaeological sites, 38 are historic archaeological sites, and 2 are multicomponent resources. Six archaeological resources are located on the border between the City and its SOI. Within the SOI, approximately 86 archaeological resources have been previously identified and recorded. Of these resources, 74 are prehistoric archaeological resources, 10 are historic archaeological resources, and 2 are multicomponent resources.

Architectural Character/Historic Resources

Architectural/historic resources typically refer to resources that date back a century or more. Many original residences, churches, and some institutional buildings remain in existence today. Corona has a documented variety of historic residential architectural style that harken back to its earliest days as an incorporated city. Most of the historic homes in Corona are of the Craftsman bungalow, California bungalow, or Vernacular wood frame styles. Other styles include the Spanish Revival and Spanish Colonial, Queen Anne, Gothic Revival, Colonial Revival, and Victorian Cottage.

In addition, other physical elements evoke Corona's history and can be considered historic resources. Examples include the pocket parks on Grand Boulevard, stone curbs and walls, the mature trees of Grand Boulevard and other downtown streets, or the tall palm trees along Chase Drive. Accessory structures associated with Corona's agricultural origins—such as barns, outbuildings, or rock-lined irrigation channels—may be considered historic resources if representative of the industry's local history. Parks, monuments, signs, or public art may also qualify as historic if significant to the cultural, social, educational, architectural, economic, or political history of the city.

Landmarks of State and National Significance

The Corona Register of Historic Resources and the Corona Heritage Inventory comprise 482 buildings, structures, and sites of local significance, civic identity, and character. Sites listed/eligible for the California or National Register of Historic Places are described below. Additional information can be found online at the Corona Historic Preservation Society webpage at https://www.corona-history.org/.

Resources within Corona

- **Andrew Carnegie Library**, 8th and Main Streets. This Neoclassical building was designed by Los Angeles architect Franklin Pierce Burnham and built in 1906. It was the City's public library until 1971 and was eventually demolished. The building was added to the National Register on June 29, 1977.
- **Woman's Improvement Club**, 1101 S. Main Street. Thomas Preston designed this one-story, multi-gabled, Craftsman-style bungalow clubhouse, built in 1913. In 1899, this civic club was formed as the Town Improvement Association. The building was added to the National Register on November 3, 1988.
- **Corona Heritage Park**, 510 W. Foothill Parkway. This 5-acre complex was the headquarters for the Corona Foothill Lemon Company, the largest citrus ranch in California in the early 1900s. It contains the Grove Ranch House, the Hardison House, the Hampton House, and the Herkelrath House among other structures.
- **Corona High School/Civic Center**, 815 West Sixth Street. This classic Spanish Revival–style building was originally built as Corona's second high school in 1923 and became the Civic Center in 1961. The building was added to the National Register on August 3, 2005.



The Corona Theater, dedicated in 1929, could hold an audience of 900 people.

- **Jefferson Elementary**, 10th and Vicentia Streets. This site joined the California and National Register of Historic Places in 2017. It includes the 1927 Spanish Colonial Revival–style original school and 1931-addition south wing. The building was added to the National Register on September 28, 2017.
- **Grand Boulevard Historic District**. This circular roadway—one mile in diameter and nearly three miles in circumference—was used as a race course for internationally acclaimed road races in 1912. The roadway was added to the National Register on July 14, 2011.
- **Corona Theater**, corner of Ramona Avenue and East Sixth Street. The Spanish Revival–style Corona Theater was designed by Carl Boller and dedicated in 1929. It is the only pre–Depression Era theater remaining in Corona. The building is eligible to be included on the National Register.



Clockwise from top left: Victorian Carpenters Gothic Style, 1892; Queen Anne Victorian House, 1899; William Henry Jameson House, 1905; Vernacular Wood Frame House, 1907.

Resources within Corona's SOI

Corona's sphere of influence contains two State Historical Points of Interest: Bandini-Cota Adobe Site and the Temescal Tin Mines. The five properties listed on the NRHP are also automatically eligible for listing to the CRHR. In addition, there are eight other properties that are eligible for the CRHR. These are:

- Barber Home (1893) – Eastlake
- 1101 Ramona Ave (1915)–Vernacular Wood Frame with Classical Revival Element
- Terpening House (1899) – Queen Anne Victorian
- Corona First Methodist Church (1914) – Tudor Revival
- 401 East 8th Street (1908) – Vernacular Wood Frame
- Camp Haan Barracks (1942) – Vernacular Wood Frame
- 517 E 8th Street (1896)
- El Gordo Caballo Ranch (1939)



Clockwise from top left: Additional historic structures in the city include the First Congregation Church, 1910 (Corona's First Church est. 1887); 1284 Kelley Street, and unique Colonial Revival home, 1928.

Historic Districts

A historic district is a geographically defined area possessing a concentration of contributing historic resources that relate to each other and are unified by physical development or historical context. As required by the municipal code, the city council has made the findings to establish 10 historic districts in Corona:

- **Heritage Park District**, built 1913. The park is built at the site of the Foothill Ranch, Corona's last citrus packinghouse complex. The site includes the company store, packinghouse, original residence of ranch founder H. E. Hampton, outbuildings, century-old trees, exotic specimens, and a functioning lemon grove.
- **Lemonia Grove District**, built 1895. This district is located on 3½ acres of land at 2750 Rimpau Avenue. Oscar Thieme, a German businessman, established the estate in 1895. He planted the area around his home with a wide variety of lush specimen trees, ornamental shrubs, flowering vines, and multitudes of flowers.
- **Kammeyer Ranch District**, built 1892 and 1895. Kammeyer Ranch District is located on five acres of land at 2837 South Kellogg Avenue and is a typical complex reminiscent of Corona agricultural history. Citrus ranchers and the Gilbert family's groves surrounded their home.
- **Sunnyslope Cemetery District**, built 1892. The cemetery is at 1125 South Rimpau. A small section was reserved for paupers. Many of the city's founding families are buried here. The grounds, graves, headstones, and memorials are reminders of the people who founded, shaped, guided, and shared the city's history.
- **City Park District**, built 1913. City Park, the first park built in the City, is a 20-acre site at 930 East Sixth Street. Local architect Leo Kroonen Sr. designed a "City Plunge" swimming pool complex that was built in 1925 and later demolished. A Founders Plaque was erected on the site in 1936. It was listed as California Historic Landmark No. 738, Corona Founders Monument.
- **Grand Boulevard Streetscape District** (2001). The unique circular roadway was a prominent feature used as a race course for internationally acclaimed road races in 1913, 1914, and 1916. It gave rise to the long-standing moniker "The Circle City," which makes Corona distinctive from any other city. The city's only "boulevard," it contains wide parkways, large mature trees, and historic street lamps fronting the stately homes of the city founders and early city leaders.
- The final four historic districts consist of individual roadway segments in Corona that are historically significant to the City and were lined with landmark palm trees. These roadway segments are:
  - Chase Drive Palm Trees District (built pre-1930)
  - Rimpau Avenue Palm Trees District (built pre-1930)
  - South Main Street Palm Trees District (built pre-1930)
  - Palisades Drive Roadway District (build date unknown)

Sphere of Influence Historic Sites

There are no resources within the City's SOI that are listed on the National Register of Historic Places. The following summarizes resources in this category that are listed on state and local registers. Only one of the City's SOI areas, Temescal Valley, contains sites of historical significance. Eight California State Historical Landmarks are located near the Temescal Valley/Canyon, which are listed below.

- **Serrano Boulder.** As early as 1818, Don Leandro Serrano had cattle, sheep, cultivated land, and orchards in Temescal Valley. The boulder placed by residents of Temescal Valley marks the site of the first house in Riverside County, erected by Leandro Serrano about May 1824.
- **Serrano Tanning Vats**. Two vats were built in 1819 by the Luiseño Indians under the direction of Leandro Serrano, first non-Indian settler in what is now Riverside County. The vats were used in making leather from cow hides. In 1981 the vats were restored and placed here by the Billy Holcomb Chapter of E. Clampus Vitus.
- **Carved Rock**. The petroglyphs were carved by the Luiseño Indians. Their meaning is said to be, "A chief died here. These are his plumes, his portrait, his sign, and the animals sacred to him." The Luiseño Indians who lived in Temescal Valley belonged to the Shoshonean linguistic group.
- **Butterfield Stage Station**. Site of Butterfield Stage Station where mail was delivered and horses changed. The first stage carrying overland mail left Tipton, Missouri on September 15, 1858, and, passing through Temescal, arrived in Los Angeles October 7, 1858. Efforts are underway to recreate this trail.
- **Painted Rock**. Painted rock dates back to the Native Americans who occupied this land. In tribute to the earliest record of any people in this region, the Santa Fe Railway has preserved this rock with its ancient pictograph.
- **Ruins of Third Serrano Adobe.** Don Leandro Serrano set out orchards and vineyards and cultivated some of the fertile lands of the Temescal Valley. In the 1840s he built his third adobe, which the Serrano family occupied until 1898, on the well-traveled road between San Diego and Los Angeles.
- **Old Temescal Road**. This route was used by Luiseño and Gabrieleno Indians. Leandro Serrano established a home here in 1824. Jackson and Warner traveled the road in 1831, and Frémont in 1848. It was the southern emigrant road for gold seekers from 1849 to 1851, the Overland Mail route from 1858 to 1861, and a military road between Los Angeles and San Diego from 1861 to 1865.
- **Corona Founders Monument**. This monument commemorates Corona's original founders. R.B. Taylor, George L. Joy, Samuel Merrill, A.S. Garretson, and Adolph Rimpau, after purchasing lands of La Sierra Rancho and El Temescal grant, founded the citrus colony and town of Corona on May 4, 1886.

Additional information on cultural resources can be found in the technical report prepared for the general plan environment impact report.

2.5 PALEONTOLOGICAL RESOURCES

While other areas of Riverside County are better known for paleontological resources, the Corona area is nonetheless known to contain fossil localities within the city limits as well as geological formations that are known to contain fossils in other locations within the vicinity of the city. Marine-related habitats have also been recorded in Corona, in particular near the I-15/SR-91 interchange. Data provided by the Los Angeles County Museum indicates there are multiple known fossil localities within Corona city limits, and other fossil localities from similar formations in the vicinity.

In planning for future development or for major redevelopment or infrastructure projects in Corona where excavations are likely, it is useful to assign a paleontological sensitivity rating to locations. Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Site rating is determined by the type of rock, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit.

The following classifications of geologic formations are used to indicate the potential for the presence of fossils and assign appropriate mitigations.

- **No Sensitivity.** This refers to igneous and metamorphic rocks, which generally have no paleontological sensitivity because the ways these rocks form are not conducive to the preservation of fossils.
- **Low Sensitivity.** Some rock units are of an age to preserve fossil resources, but specimens are poorly represented in the literature and in museums, and the presence of fossils is the exception and not the rule.
- **Low-to-High Sensitivity.** Some sedimentary deposits are too young to preserve fossils at the surface or shallow subsurface, but may preserve fossils at greater depth or overlie older units that have high paleontological sensitivity.
- **High Sensitivity.** These areas refer to geologic formations that are known to preserve abundant or scientifically significant fossils, therefore giving them high sensitivity to paleontological resources.
- **Undetermined Sensitivity.** This designation refers to areas where paleontological sensitivities cannot be determined because there is little to no record in the scientific literature.

Most of central Corona is underlain by an area designated as having high sensitivity or a low-to-high sensitivity (depending on the depth of the soil) for paleontological resources. Rock units surrounding the city in the adjacent foothills are classified as having low or no sensitivity for paleontological resources. Locations for these different areas of paleontological sensitivities are illustrated in Figure 2-6 on the following page and in the paleontological resources report for the General Plan EIR.

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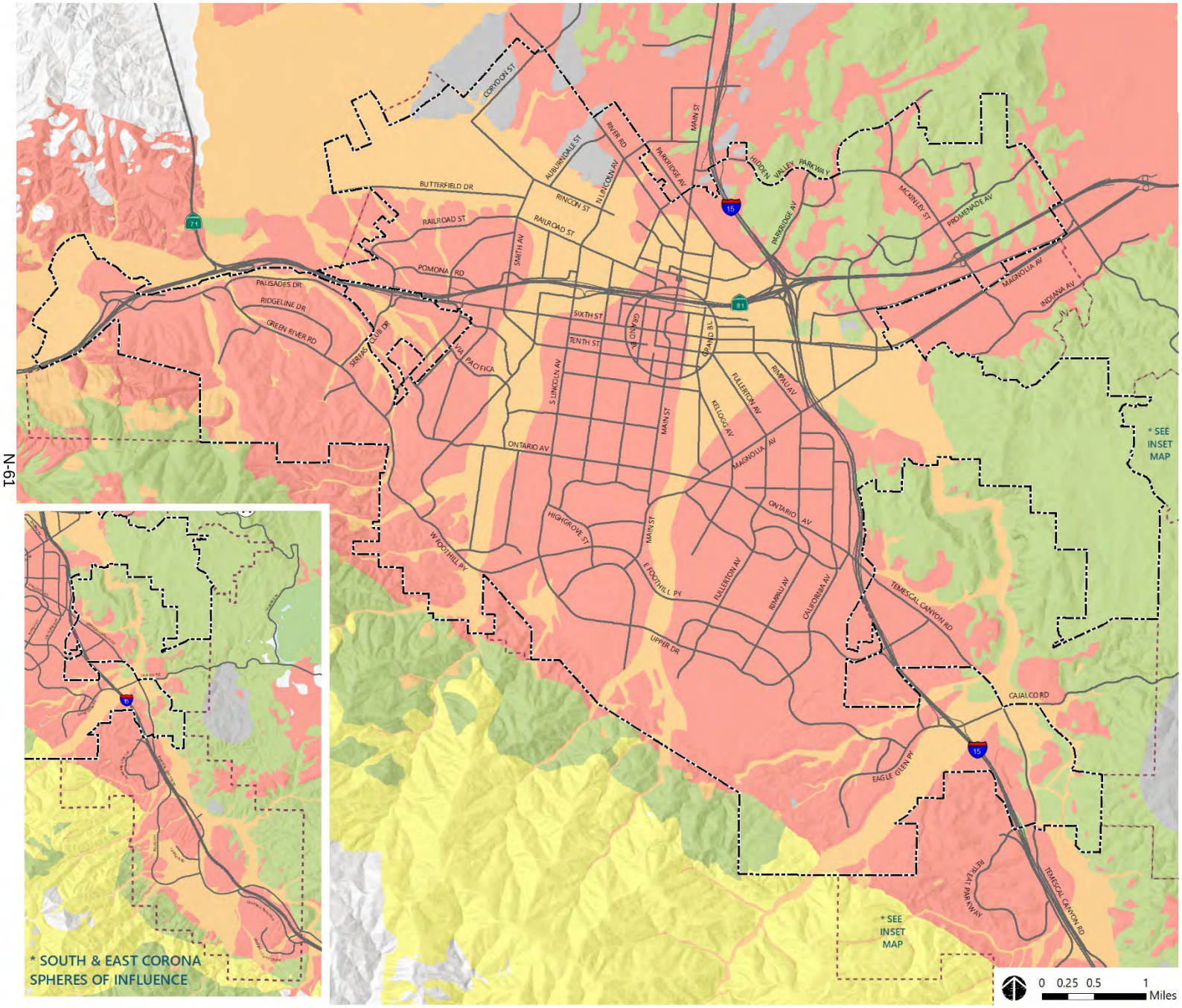


Figure 2-6 Sensitive Paleontological Resources

Legend

- Unknown Sensitivity
- No Sensitivity
- Low Sensitivity
- Low-to-high Sensitivity, increasing with depth
- High Sensitivity
- City Boundary
- Sphere of Influence Areas

Source:
SCWA 2017

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2.6 HOUSING AND ECONOMIC DEVELOPMENT

This section provides a descriptive profile of Corona's housing and economic conditions, including trends related to the City's demographics, housing stock, and economic development.

2.6.1 Regulatory Framework

California law and rules promulgated by the Department of Housing and Community Development regulate the content and process of preparing housing elements. In contrast, local economic policy is governed solely by local ordinances or programs. Key regulations and policies affecting these topics are summarized below.

Housing Element Law

Under California housing element law, a city's housing element must identify housing needs for all income categories and provide opportunities for housing development to meet that need. The California Government Code requires the housing element to identify adequate sites to facilitate the development of housing, including housing to meet the needs of low and moderate income households. Cities are responsible for removing, as legally feasible and appropriate, governmental constraints to the production, maintenance, and improvement of housing for persons of all incomes and disabilities. Cities must also conserve and improve the condition of housing, including existing affordable housing. Finally, local governments must comply with fair housing law. Detailed regulations can be found in the Government Code.

Corona 2004 General Plan

The Corona General Plan was comprehensively updated in 2004. However as required by state law, the City updated its general plan housing element in 2013 to cover the period of 2013 to 2021. The housing element has four goals:

» Promote and maintain a balance of housing types and corresponding affordability levels to provide for the community's needs for housing within all economic segments of the City.

» Promote and preserve suitable and affordable housing for persons with special needs, including large families, single-parent households, the disabled, and seniors, and shelter for the homeless.

» Maintain high quality residential development standards to ensure the establishment of livable neighborhoods with lasting safety and aesthetic value, and to promote the maintenance and preservation of historic neighborhoods.

» Maintain high quality residential development standards to ensure the establishment of livable neighborhoods with lasting safety and aesthetic value, and to promote the maintenance and preservation of historic neighborhoods.

Sixteen policies and programs are implemented to achieve the above goals and the City general plan vision for having a balanced stock of housing.

Economic Development Element

The General Plan places great value on economic development. Its vision is to improve employment opportunities for Corona's residents. The City's vision is for a diverse economic base with jobs for Corona residents. Existing businesses will be encouraged to remain. Clean, high-technology businesses and research and development companies will be recruited, providing job opportunities that match the skill of Corona's residents. These will be supported by adequate land and infrastructure. Through professional development, vocational training, and higher education, a reliable source of valued employees will be available to Corona businesses. The General Plan Economic Development Element has five goals:

» **Goal 5.1.** Promote a strong and diversified economic base by attracting quality business and encouraging existing business to expand sales, facilities, and jobs.

» **Goal 5.2.** Promote a growing and skilled labor force.

» **Goal 5.3.** Promote the revitalization of targeted growth areas including the Downtown, North Main Street, southeast corner of the SR-91 and I-15 interchanges, the Sixth Street corridor, and the City's Sphere areas.

» **Goal 5.4.** Ensure fiscal viability for the City by pursuing a diversified local business base that provides growing tax revenues to pay for municipal operations.

» **Goal 5.5.** Pursue a range of financing opportunities to fund infrastructure and other public facilities.

Economic Strategic Plan

The City's 2013 Economic Development Strategic Plan was prepared to create a balance between quality of life, employment creation, and taxable sales generation so that the City of Corona continues to be a desirable location to live and establish business. The City desires to enhance the trajectory of Corona's economy by being the change-agent that will spur revitalization of distressed property, rejuvenate neighborhoods, generate sustainable tax revenue, grow the employment base, and bring amenities leading to a higher quality of life. This vision is to be achieved through five goals:

» Keep Corona's position as a leader in the Inland Southern California for places to live and work.

» Keep existing business prosperous and selectively attract new ones.

» Attract additional high paying head-of-household jobs and promote high-quality education and retention of graduates.

» Protect air quality, open spaces, and sense of community.

» Grow Corona in a manner consistent with protecting community character and quality of life with an emphasis on transparency and collaboration between the citizens of Corona and their government.

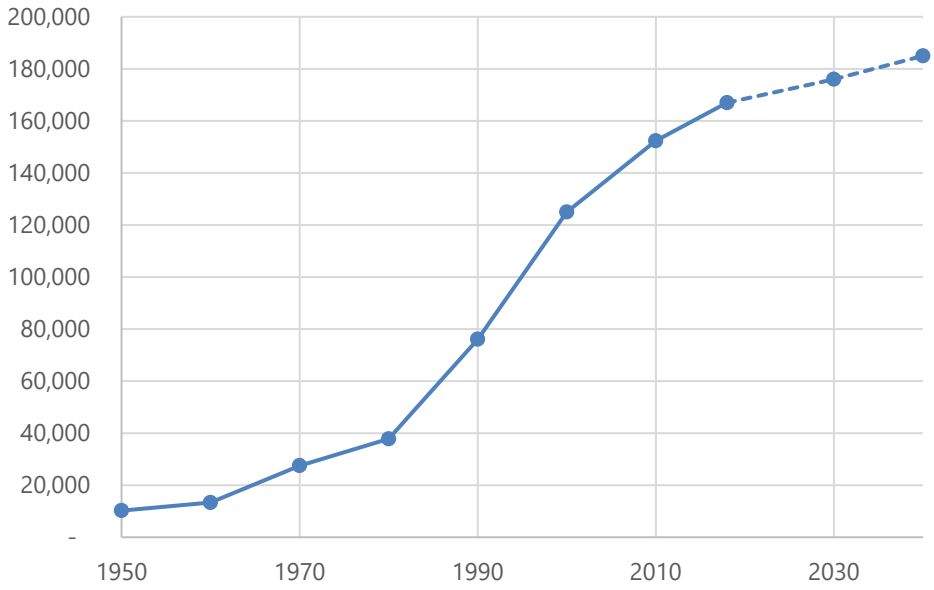
2.6.2 Existing Conditions

The following sections describe the characteristics of population and households for the City of Corona and its SOI to assist in understanding housing needs. It is important to note that the estimates rely on a five-year sample (2011-2015) of the American Community Survey, the latest five-year sample taken at that time. Although these numbers differ from the EIR, they are not intended to replace the existing land use and buildout analysis contained in the EIR or estimate of impacts. This data will be updated in 2020 as part of the City's 2021-2029 Housing Element update.

Population Growth

Corona was incorporated in 1896. By 1940, the population had grown to 8,764 persons, Over the next several decades, the population more than doubled to 27,519 persons by 1970 and increased to about 40,000 by 1980. The beginning of the 1980s saw significant increases in population as land was converted to residential (housing) uses. As of the 2010 Census, the City population stood at approximately 152,000 an increase of 22 percent since 2000. From 2010 to 2019, the City's population growth (11 percent) has slowed to about 168,000 as vacant land has gradually diminished in the community.

Figure 2-6 Corona Population Growth, 1950–2040



Source: California Department of Finance, Historical U.S. Census Populations 1950–2019.

Looking forward, the City of Corona is estimated to have a buildout population of approximately 184,000 by 2040. This population estimate is based on the development of specific plans and infill projects over the next 20 years. The City's SOI will also experience population growth of about 20,000 during the same time frame. Total buildout for the City and its SOI is anticipated to exceed 180,000 by 2040.

Household Characteristics

Corona's households are mostly families. The 2011–2015 ACS estimates that 76 percent of the City's 48,156 households are family households. Married-couple families make up 59 percent, and 40 percent are households with minor children. The SOI communities have 13,655 households, of which 62 percent are married-couple families and 46 percent include children under the age of 18. Additionally, a combined 11,335 households in Corona and the SOI are single-person households.

Population Age

Corona's population is generally younger than most communities, with a median age of 33.9 years compared to 34.8 years in Riverside County as a whole. However, the population of Corona is very similar to its SOI areas. Within Corona, 30 percent of the population are age 18 or younger, 62 percent are working age, and 9 percent are 65 years or older. The SOI areas are slightly older in population age, with 27 percent of residents age 18 or younger, 62 percent working age, and 11 percent seniors.

Household Size

According to the 2015 ACS and as shown in Table 2-6, *Population and Household Characteristics*, Corona averaged 3.3 persons per household, which is similar to the Riverside County average of 3.25. The SOI areas have a slightly higher average household size of 3. 6 persons. Large households of five or more members, discussed below, make up almost one of every five households in Corona, which is expected given the fairly large size of homes in the community.

Race and Ethnicity

As of 2015, Hispanic residents made up 43 percent of the City's population, followed by Non-Hispanic Whites at 38 percent, and Asians at 11 percent. Although the SOI reflects similar demographics, there is variation among the SOI communities—Hispanics are a majority in Home Gardens, and Whites are the majority in Temescal Valley. Overall the Asian population is the third largest population for the SOI areas (6 percent), closely followed by African Americans (5 percent).

Special Needs

Certain population groups are considered to have special housing needs due to limited income or physical impairment. Special needs groups include disabled persons, the elderly, large households, farm workers, female-headed households with children, extremely low-income households, and homeless persons. As shown in Table 2-6, the largest group in this category are seniors (making up one in five households) followed by persons with disabilities and large households.

Additional special needs groups are single-parent households, large households of five or more people, and farmworkers. Single-parent households account for 4,274 or 9 percent of households in Corona and 982 or 7 percent in the SOI communities. Of those, more than half are female-headed households (2,720 Corona and 713 SOI). In 2015 it is estimated that 752 farmworkers lived in Corona and its SOI. Riverside County's 2015 Point in Time Survey also reports 56 unsheltered homeless persons.

Table 2-5, *Corona Population and Household Characteristics,* provides a summary of population and household characteristics in Corona, its SOI, and the Planning Area. Demographic data is derived from the ACS and may differ from the Department of Finance due to differences in sampling techniques and the year the survey was taken.

Table 2-5 Corona Population and Household Characteristics

Category	City of Corona	Sphere of Influence	Total Planning Area
Population			
Total Population	159,595	44,734	204,329
Total Households	48,156	13,655	61,811
Persons per Household	3.3	3.6[1]	N/A
Household Type			
Family	36,618	10,461	47,079
- w/ Own Children under 18	19,108	4,847	23,955
Non-family	11,538	2,487	14,025
- Single Person Alone	9,465	1,870	11,335
Age Range			
< 18 years	47,434	12,117	59,551
18–34 year	34,405	9,765	44,170
35–64 years	63,975	17,790	81,765
65+ years	13,781	5,062	18,843
Median Age	33.9	N/A	N/A
Race and Ethnicity			
Hispanic	68,904	20,394	89,298
Non-Hispanic White	60,382	17,746	78,128
Non-Hispanic Black	7,788	2,405	10,193
Non-Hispanic Asian	17,402	2,953	20,355
All Other[2]	5,119	1,236	6,355
Special Needs			
Households with Seniors[3]	13,534	5,051	18,585
Persons with Disabilities[4]	12,040	3,735	15,775
Large Households[5]	9,506	2,625	12,131
Single-Parent Households	4,274	982	5,256

Sources: U.S. Census Bureau, 2011–2015 American Community Survey.
Notes:
1. Represented as an average of persons per household in SOI areas.
2. Other includes American Indian, Alaska, Native Hawaiian. or another race alone.
3. Defined as households with a member who is 65 years or older.
4. Disabilities can include mobility, mental, visual, employment, sensory, self-care, and others.
5. Large households are identified as those with 5 or more persons.

Household Income

Corona is one of the wealthier communities in Riverside County. As shown in Table 2-6, *Household and Median Income,* a significant number of Corona's households (34 percent) have an income higher than $100,000. For the SOI communities in Temescal Valley, 42 percent (3,316) of households earned more than $100,000, and 17 percent of households in Home Gardens are in the same earning bracket. In contrast, about one-quarter of all households in Riverside County earn more than $100,000.

In Corona, the 2011–2015 ACS estimated the median household income at approximately $74,000, significantly above the county median income of $65,000. Corona's median income ranks the 6th highest in the county. The average median household income for the SOI was $69,000, but it varies among SOI communities. Temescal Valley's median income was about $86,500, and Home Gardens was $53,500. The median household income in Coronita was second highest at $76,000.

In the City of Corona, the poverty rate is similar to other communities. Corona's poverty rate is 12 percent of the population, versus 15 percent for Riverside County and 14 percent for California. In the SOI areas, however, there are significant differences. The poverty rate is highest for Home Gardens (26 percent), while ranging from 7 to 9 percent in the other three SOI areas. Table 2-6, *Household and Median Income*, summarizes income statistics for households and residents in Corona.

Table 2-6 Household and Median Income

		Sphere of Influence			
Income Range	**Corona**	**El Cerrito**	**Home Gardens**	**Coronita**	**Temescal Valley**
Less than $15,000	3,563	50	328	59	391
$15,000 to $24,999	3,756	88	366	45	477
$25,000 to $34,999	4,382	152	283	27	469
$35,000 to $49,999	4,719	256	278	144	602
$50,000 to $74,999	7,849	290	561	149	1,329
$75,000 to $99,999	7,320	213	500	207	1,235
$100,000 to $149,999	9,872	272	425	125	1,791
$150,000 to $199,999	3,852	85	22	60	907
$200,000 or more	2,841	65	14	65	618
TOTAL	**48,156**	**1,472**	**2,776**	**881**	**7,819**
Median Income	**$74,149**	**$60,625**	**$53,480**	**$75,842**	**$86,513**
Poverty Rate (person)	**12%**	**7%**	**26%**	**9%**	**8%**

Source: U.S. Census Bureau American Community Survey, 2011–2015.

Housing Characteristics

As of 2018, there were 49,277 housing units in Corona and 10,896 units in the SOI. The majority is single-family units, with 71 and 93 percent respectively in the City and SOI. Mobile homes constitute a portion of the area's housing supply. Corona had 1,674 mobile homes and the SOI had 687 mobile homes—respectively, 4 percent and 6 percent of the housing stock. Table 2-7, *Housing Characteristics,* shows key statistics in Corona and the SOI from the Census, Department of Finance, and local surveys.

Overall, home ownership has improved throughout the Inland Empire and in Corona, with 66 percent of households owning a home in Corona and 82 percent in the SOI communities, which are almost exclusively single-family homes. In Corona, the vacancy rate was 0.7 percent for owner occupied units and 3.9 percent for rentals. These figures are below the standards of 5 percent for rental units and 2 percent for owner-occupied units, which generally reflect a well-functioning market.

Housing prices and rents have significantly improved over the past few years. As of 2017/18, the median price in Corona was $475,000 for a single-family home and $290,000 for a condominium. For the SOI the median home value was highest (about $490,000) in zip code 92881, which encompasses El Cerrito, and lowest ($381,000) in zip code 98879, which encompasses Home Gardens. Apartment rents have increased considerably in recent years with the median rent of $1,653 in 2018.

Table 2-7 Housing Characteristics

Category	City of Corona		Sphere of Influence	
	Units	Percent	Units	Percent
Housing Type[1]				
Single Family	35,096	71%	10,133	93%
Multi-Family	12,507	25%	76	1%
Mobile Home	1,674	4%	687	6%
Housing Tenure[2]				
Owner-Occupied	66%		82%	
Renter-Occupied	34%		18%	
Owner/Rental Vacancy	0.7% | 3.9%		N/A	
Median Price/Rents[3]				
Single Family	$475,000		N/A	
Condominium	$290,000		N/A	
Apartment Rent	$1,653		N/A	

Notes:
1. 2018 Department of Finance. Existing Land Use Survey, 2017-2018
2. U.S. Census Bureau, American Community Survey, 2011–2015
3. Redfin and Zillow, 2017-2018

Housing Growth Needs

A key component of the housing element is the jurisdiction demonstrating it can accommodate its designated share of the region's housing growth. The Housing and Community Development Department estimates the relative share of California's projected population and housing growth in each region. The Southern California Association of Governments then allocates that growth to cities. The methodology takes into account growth projections, vacancy rates, demolition rates, and employment growth, among other factors. Cities are required to develop quantified objectives to provide adequate housing sites to address their assigned share.

In addition to new construction objectives, all jurisdictions are required to establish quantified objectives for the rehabilitation and preservation/conservation of housing. Conservation goals can include the preservation of existing affordable housing or replacement of housing where affordable housing was lost, such as the clearance activities for the SR-91 improvements. Cities typically focus on assisting in the rehabilitation and preservation of below-market-rate housing through community development grant funds and other state and federal monies. Individual property owners address the preservation or rehabilitation of "market rate" housing.

Table 2-8, *Housing Element Quantified Objectives, 2013–2021*, details the City's objectives for housing construction, rehabilitation, and preservation. In summary, the housing element includes a commitment to provide sites for 770 new units, assist in funding rehabilitation of 120 low-income units, and conserve up to 269 housing units affordable to very-low-income households from 2013 to 2021.

Table 2-8 Housing Element Quantified Objectives, 2013–2021

Affordability Category	Objectives (Number of Housing Units)		
	Constructed Units	Rehabilitated Units	Conserved Units
Extremely Low Income	92	60	134
Very Low Income	100		135
Low Income	128	60	0
Moderate Income	142	0	0
Above Moderate Income	308	0	0
Total	770	120	269

Source: City of Corona, Housing Element, 2013-2021.

As required by state law, Corona submits an annual report to the Department of Housing and Community Development that documents the City's progress in meeting its quantified objectives as set forth in the housing element.

Employment

Corona's economic base plays an essential role by offering opportunities for investment, providing employment opportunities for residents, contributing tax dollars for local services, and paying wages that are spent locally. Ensuring a healthy local economy is important not only for the welfare of individual businesses but also for residents. The City has made it a priority to work with local business to create an environment that encourages investment in commerce and jobs. These estimates will be updated as part of the 2021-2029 Housing Element update to occur in 2020.

Major Employers

The top 15 employers in Corona employ approximately 13,000 people and comprise 18 percent of all jobs. The largest employer—Corona-Norco Unified School District—provides 7 percent of the City's jobs, followed by companies such as Kaiser Permanente and the Corona Regional Medical Center, which each provide 3 percent of local jobs. With respect to sectors, manufacturing (aeronautics), aftermarket automotive, food processing, and research and development for medical technology are the largest economic clusters represented within Corona. (Table 2-9).

Table 2-9 Leading Employers in Corona

Leading Employers City of Corona	Sector	Product or Service	Number of Jobs
Corona-Norco USD	Education	K-12 Education	5,098
Corona Regional Medical	Health Services	Health Service	1,100
Kaiser Permanente	Health Services	Health Service	995
All American Asphalt	Construction	Asphalt Production	842
Monster Energy	Distribution	Consumer Goods	850
City of Corona	Government	City Government	749
Fender Guitar	Manufacturing	Guitar Manufacturing	600
TWR Framing Enterprises	Construction	Framing Contractors	600
CoreMark International	Manufacturing	Consumer Goods	421
Dart Container	Manufacturing	Foam Products	420
Veg-Fresh Farms	Distribution	Consumer Goods	324
U.S. Foodservice	Distribution	Consumer Goods	320
CIRCOR Aerospace	Manufacturing	Aerospace Parts	300
Advanced Flow Engineering	Manufacturing	Aftermarket Auto	150
Alvord Unified School District	Education	K-12 Education	150

Source: City of Corona Economic Development Department, 2017; California Employment Development Department, 2017.

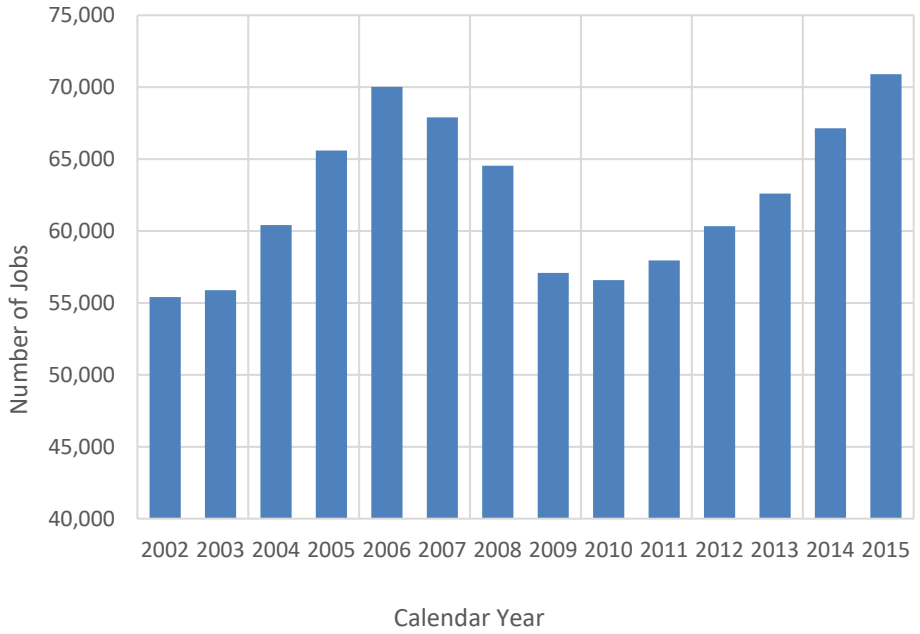
Employment Growth

The last 15 years have seen perhaps the most dramatic convulsions in the economy. Much like the rest of the nation and southern California, cities experienced significant improvement in the local economy during the early 2000s. However, with the housing market crash of the mid to late 2000s coupled with state and national recessions, employment levels crashed beginning in 2006. After job numbers increased 25 percent from 2002 to 2006, the Great Recession erased these gains, and employment levels did not return to pre-recession levels until a decade later.

Much like the rest of southern California, Corona is in the midst of an unprecedented development boom. The market for industrial space is fierce, driving developers to acquire virtually all remaining vacant industrial parcels in Corona. As such, the City is also experiencing a new trend—recycling of industrial land. The same trend is evident in the Class A office market and developer interest in existing properties with significant surface parking lots that can be used for office developments. These trends have resulted in sustained gains in employment levels, as shown in Figure 2-7.

Employment levels will continue to grow in Corona for the next several years. More than a million square feet of industrial space have been developed in the last year. As mentioned above, existing industrial uses are also being recycled. These trends, including future office developments in the Dos Lagos area and approved medical buildings in south Corona, will likely result in increased employment levels.

Figure 2-7 Change in Employment, Corona, 2002–2015



Source: U.S. Census Bureau. LEHD Origin-Destination Employment Statistics Data

Employment Composition

Assessing the number of jobs by economic sector provides insight into the types of industry and businesses that make up Corona's local economy. In 2015, there were a total of 70,909 people employed in Corona and 6,087 in the SOI. The most notable sectors for both Corona and the SOI are manufacturing and construction, which together make up the highest proportion of the local economy—manufacturing (18 percent), followed by construction (16 percent), and educational services (11 percent).

Table 2-10, *Jobs by NAICS Industry Sector*, shows the total number of jobs by economic sector in the City, SOI, and Planning Area.

Table 2-10 Jobs by NAICS Industry Sector

Industry	Number of Jobs by Area		
	City of Corona	Sphere of Influence	Total Planning Area
Natural Resources	261	19	280
Mining, Quarrying, Oil/Gas Extraction	100	52	152
Utilities	111	22	133
Construction	10,925	1,391	12,316
Manufacturing	12,227	815	13,042
Wholesale Trade	7,089	408	7,497
Retail Trade	8,046	402	8,448
Transportation & Warehousing	1,578	257	1,835
Information	768	14	782
Finance & Insurance	1,673	35	1,708
Real Estate & Rental & Leasing	862	69	931
Professional, Scientific, & Technical Services	2,645	329	2,974
Management of Companies & Enterprises	1,009	3	1,012
Administration & Support, Waste Management & Remediation	6,202	382	6,584
Educational Services	2,712	525	3,237
Health Care & Social Assistance	6,067	313	6,380
Arts, Entertainment, & Recreation	484	60	544
Accommodation & Food Services	5,506	502	6,008
Other Services	1,945	480	2,425
Public Administration	699	9	708
Total	70,909	6,087	76,996

Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics, 2015.
Notes: These employment estimates will differ slightly in total and composition from the existing land use survey due to different definitions of certain employment categories

Economic Supersectors

The City's local economy has undergone broad changes during the past decade. While the local economy has largely recovered, there are distinct changes. These changes are due in part to broader economic forces at play, the recession, and the City's aggressive marketing and economic development efforts.

The City's top economic sectors and trends are described below and illustrated.

- **Goods Producing**. This sector includes agriculture, fishing, and forestry; mining, quarrying, oil and gas extraction; construction; and manufacturing. The goods-producing sector makes up the largest sector of the City's employment base, by far the largest sector. Although this sector declined precipitously during the recession and was the slowest to recover, it has been trending upward since 2012.

- **Local Serving**. Local-serving sectors provide goods and services for people living or working in the area. This includes education, health care, and social assistance; retail trade; real estate and leasing; arts, entertainment, and recreation; accommodation and food services; and other services. Not counting education and health services, this sector is the 2nd largest sector of the local economy.

- **Trade and Transportation**. This sector includes wholesale trade, transportation, warehousing, and administrative support and waste management services. This sector makes up the third largest sector of the local economy. Except for a few years during the recession, this sector has increased 80 percent since 2002 and remains a major driver of the local economy.



The Golden Cheese Plant, closed in 2007, was demolished and replaced with 771,000 square feet of modern industrial buildings in 2019.

» **Knowledge-Based**. This sector includes information, finance, and insurance; professional, scientific, and technical services; and management of companies and enterprises. Entry typically requires a college degree or advanced degree. While comprising only 9 percent of all jobs in Corona, is it is the fastest growing economic sector, increasing 106 percent in Corona's economy since 2002.



Monster Energy just relocated its headquarters to the Corona Business Center

» **Health and Social Assistance.** This sector provides a broad range of health care and social services including ambulatory health care, nursing and residential care facilities, hospitals, and social assistance. While comprising only 9 percent of all jobs in Corona, it is one of the fastest growing economic sector, increasing 88 percent in Corona's economy since 2002.

» **Educational Services.** This economic sector includes local schools, universities, and other educational institutions. Educational services make up about 4 percent of the City's labor force, which is generally lower than averages for the region and state of California. While employment levels have fluctuated, this sector has remained at approximately 4 percent of the local economy.

» **Public Administration.** Government provides 1 percent of local jobs. It is important to note that this category appears to understate the actual number of government jobs. Federal postal jobs and military employment are not included. Moreover, Riverside County employees (courts, medical facilities, etc.) do not appear to be accurately reflected in the LEHD data. When these are included, government employment likely comprises a larger part of the local economy.

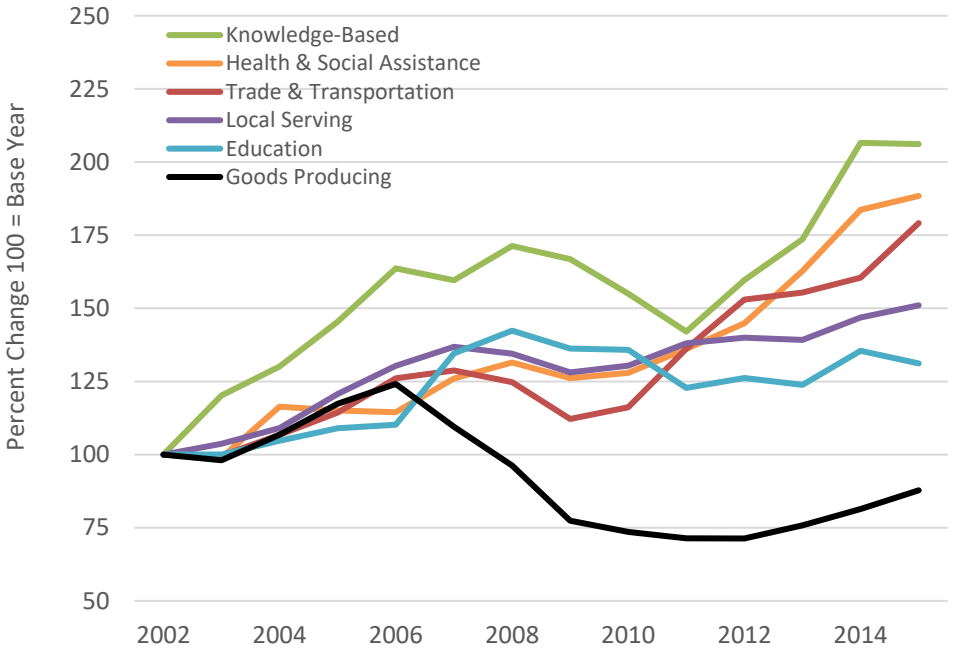
Table 2-11, *Jobs by Industry Supersector,* and Figure 2-8, *Change in Economic Sectors in Corona, 2002-2015,* illustrate trends in various economic sectors in Corona along with comparisons to the Riverside-Ontario-San Bernardino MSA and California.

Table 2-11 Jobs by Industry Supersectors

Industry	City of Corona			Comparison Areas	
	Number of Jobs	Percent of Job	Growth Since '02	Percent of Jobs in CA	Percent of Jobs in MSA
Goods Producing	23,513	33%	-12%	15%	15%
Local Serving	14,980	21%	79%	27%	28%
Trade and Transportation	16,843	24%	51%	15%	20%
Knowledge-Based	6,095	9%	106%	16%	7%
Health & Social Assistance	6,067	9%	88%	14%	14%
Education	2,712	4%	31%	9%	10%
Government	699	1%	-20%	5%	5%
Total	70,909	6,087	28%	100%	100%

Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics, 2015.

Figure 2-8 Corona Job Sector Trend, 2002–2015

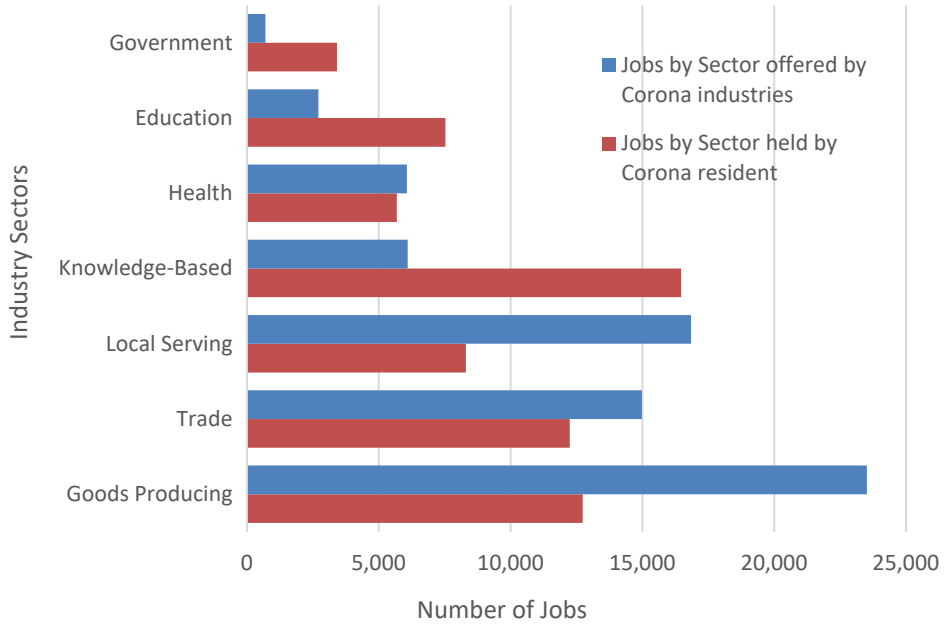


Employment by Sector for Corona Residents

While Corona has experienced significant growth in several key sectors, there is still an imbalance in the type of jobs offered within Corona versus the types of sectors that employ residents (see Figure 2-9). In government and educational sectors, Corona has far more residents employed in these industries than jobs offered in Corona, resulting in residents commuting to other communities for work. An even greater imbalance exists with knowledge-based industries, to which Corona exports a significant portion of its workforce (nearly 10,000 workers) to communities in southern California.

The reverse situation exists with local-serving industries, trade, and goods-producing industries. These are sectors that import workers from other communities. More than 12,000 workers are imported from other communities to serve in the goods-producing industries in Corona. The significant import and export of labor underscores the reason for the long commutes that much of Corona's workforce makes on a daily basis.

Figure 2-9 Corona Jobs vs Jobs Held by Residents, 2015



Looking forward, the City of Corona continues to have significant opportunity to attract knowledge-based industries. Emerging office parks in Dos Lagos could add 300,000 square feet of high-rise Class A office. Green River Ranch and other locations throughout Corona also offer the opportunity for professional offices.

2.7 IMPLICATIONS FOR THE GENERAL PLAN

The following provides a summary of issues and opportunities for consideration in updating the general plan. This is not intended to be an exhaustive list. Additional issues and opportunities will also be derived from the review of existing policies.

The City of Corona is largely a built-out community with limited vacant land for future development. Infrastructure, public facilities, and services consist of the places and programs that support the basic needs of people and business and create a viable, sustainable, and cohesive community. For residents and businesses, these services are often the most tangible indicators of quality of life in Corona. Chapter 2 contains an overview of community development issues, including opportunities for future growth, community design, and historic preservation.

2.7.1 Issues for Consideration

» **Community Development**. Corona has experienced significant growth and development over the past several decades, and has now become the 31st most populated city in California. Housing, household, and population growth have all exceeded projections from the Southern California Association of Governments. This growth is due, in part, to Corona's position as a gateway to Orange County and the Inland Empire and the desirable quality of life offered in the community. The City has managed this growth in a strategic manner—through the preparation of specific plans, planning for capital improvement projects, and provision of services to support the City's residents and business community.

  Although Corona is quickly approaching its buildout and growth has declined from its peak days, there are still significant opportunities for residential development. Arantine Hills, Sierra Bella, Skyline Heights, and Dos Lagos remain to be developed. Development opportunities in Temescal Valley include Toscana, El Cerrito, and Home Gardens to a lesser extent. Eagle Canyon also presents an opportunity if adequate infrastructure can be provided in that area. Beyond the previously mentioned areas, future residential development will consist of smaller infill parcels scattered throughout the remainder of Corona.

  Opportunities for office, commercial, and industrial development are also limited. Dos Lagos and Green River Ranch still remain as opportunities within Corona. Within the SOI, opportunities for nonresidential development include Toscana Village, Serrano Commerce Center, and Home Gardens to a lesser extent. Beyond these areas, future development opportunities will be focused on underutilized sites where the costs for acquisition, demolition, or reuse are relatively low. For example, this includes commercial and industrial uses with expansive surface parking, selective sites where private developer interest is strong, open storage or truck parking sites, and obsolete industrial sites that are largely abandoned.

  Should the City wish to continue seeking commercial and office development and investment, it will be necessary to allow for a more intense urban environment, focusing on specific community nodes that are best suited for intensification.

» **Community Design**. Over Corona's history, the City has developed into a polycentric urban form, with specific core nodes and districts evolving over time. The Northwest Industrial District, Dos Lagos, Downtown, North Main, and suburban residential neighborhoods each play an important role in the community. These centers for neighborhoods, industry, commerce, and civic/historic affairs are connected by an expansive system of transportation corridors. The City's natural topography accentuates Corona's urban form.

  Although Corona's urban form is established, opportunities exist to further improve the beauty and utility of its various nodes and individual components. For example, suburban automobile-oriented commercial centers will continue to evolve over time due to changing commercial markets and enterprises. Therefore, they present opportunities for re-use and the introduction of new buildings and amenities to establish a new role as a community gathering place and enhance their quality and relationship to surrounding residential neighborhoods.

  Corona remains committed to revitalizing its Downtown and Sixth Street. Downtown has benefitted from new development, interest in the Corona Mall, and new housing that have improved the area. However, the corridor still contains older commercial strip centers that are inconsistent in urban form, design, and amenities that could be repurposed or reimaged. As a gateway to Corona's Historic Core, this corridor could be reimaged through modern façades, landscaped improvements, and road diets leading into the Circle.

» **Economic Development**. The City of Corona is well positioned as a gateway to Orange County along State Route 91, allowing those who work in Orange County to live affordably in Corona's housing. Corona's high-quality neighborhoods provide an excellent quality of life for residents. Corona's location near larger labor markets has provided residents with easier access to higher wage positions in Orange County and Los Angeles County. Although Corona's median income is higher than most cities in the county, a large portion of residents travel far to work and endure lengthy commutes, in excess of an hour.

  Long commutes times can be symptoms of an imbalance in land uses countywide. There is a need to provide a better match between the local labor force and the opportunities for local jobs. Corona has been working to address this issue to the extent possible. For example, since the early 2000s, one of the key sectors of the economy—knowledge-based sectors—has increased more than all other supersectors, while manufacturing has recovered the slowest from the recession. Corona continues to attract well-paying employment opportunities that can also benefit residents living and working in the community.

  The City continues to aggressively market the advantages of locating and expanding business in Corona. Current efforts are to preserve the City's manufacturing core and its various subsectors remain priorities. Efforts are also underway to encourage reinvestment in the City's Downtown, Industrial District, and other employment nodes within the community. Looking forward, an emerging opportunity exists to facilitate the transition of aging, obsolete, and deteriorated industrial uses built during the 1960s and 1970s in select areas of the industrial district and reposition those properties for modern industrial uses.

2.7.2 Opportunities

The City of Corona is quickly approaching its future buildout with limited vacant land to expand and develop within its boundaries and land use plan. As a community reaches its buildout, the challenges transition from one of accommodating and facilitating growth to maintaining quality of life through strategic investments in infrastructure, facilities, and public services. While Corona has not yet reached this point, it is foreseeable in the horizon that full buildout will be achieved.

The General Plan can further the above objectives as follows:

» **General Plan Vision**. A guiding principle of the current general plan is a safe and balanced community containing a broad range of land uses (housing, commerce and industry, open space, etc.). The City has achieved its current balance of land uses with plans in place for most of the developable land remaining in the City. As there are no plans for fundamentally altering the City's physical pattern of development, no changes are proposed for the current general plan vision.

» **General Plan Policies**. General plan policies are exceptionally strong for community development and economic development. Historic preservation, another elective element, is also a notable part of the Corona General Plan. Still, there are opportunities for:

- Refinement of development opportunity map to identify vacant residential land, nonresidential land, and potential recycling opportunities
- Inclusion of land use policies designed to address infrastructure and public service deficiencies for the SOI in compliance with SB 244
- Addition of airport policies that are consistent with the Riverside County Airport Land Use Commission's approved plan for Corona Municipal Airport
- New general policies to address accessory dwelling units and the package of housing legislative bills approved in 2018 and 2019
- Policy guidance for reducing exposure to pollutants to comply with SB 1000 mandates regarding environmental justice

» **General Plan Implementation**. While this general plan does not contemplate changes to the City's physical land uses, new housing element mandates will require additional housing sites, particularly for multiple-family development. The City could also repurpose sites to attract new businesses that provide the type of jobs that are currently in demand. Specific programs could be proposed to:

- Identify sites for the future development of housing to address the 6th cycle regional housing needs assessment with the Housing Element Update
- Study of vacant parcels previously acquired by RCTC to accommodate construction associated with the SR-91 widening
- Study of larger infill opportunities, particularly larger oversized shopping parking lots that could accommodate other uses with structured parking
- Assessment of opportunities for future development on larger open storage areas or underutilized industrial properties

3 Infrastructure, Public Services, and Facilities

This chapter contains information on Corona's infrastructure, public services, and facilities that support the quality of life for residents, business, and visitors to Corona. It addresses the regulatory framework and existing conditions that inform the general plan and provide the setting for the environmental impact report.

3.1 INTRODUCTION

Infrastructure, public facilities, and services consist of the places and programs that support the basic needs of citizens and create a viable, sustainable, and cohesive community. For residents and businesses, these services are often the most tangible indicators of the quality of life offered by Corona and the products of local taxes. Due to the rapidly changing economic climate, state regulations, and tax system, local governments face challenges in maintaining the level of services desired. This chapter provides an overview of infrastructure, public facilities, and services in Corona that support residents, businesses, and the community.

Over the past few decades, Corona has experienced significant growth and is responsible for providing quality infrastructure, public services, and facilities to meet current and future needs. These services range from public safety to education, transportation to water and sanitation, and from arts and culture to social services. Today, services in Corona are provided by state and local public agencies, quasi-public entities, and private utility companies. In other cases, the City contracts or partners with other organizations to provide certain types of services.

This chapter provides information that will serve as the foundation for the General Plan update and existing setting of the Environmental Impact Report. This chapter includes an overview of four categories of municipal services:

- Circulation and mobility services, including infrastructure and programs to accommodate vehicles, transit, bicycling, and pedestrian activity.
- Water, sanitation, and storm drainage systems needed to provide water, prevent flooding, and maintain a clean environment.
- Public/community services, including parks and recreation, schools, libraries, public safety service, arts/cultural and educational services.

For additional detailed information, readers can refer to the various Citywide master plans that are referenced in this chapter or technical reports prepared for the General Plan update and Environmental Impact Report.

3.2 CIRCULATION AND MOBILITY

This section presents the regulatory framework affecting circulation in Corona and the physical and operational conditions of the circulation network, including roadways, public transit, bicycling, pedestrian circulation, and goods movement.

3.2.1 Regulatory Framework

The State of California and local laws (specifically the General Plan) set the regulatory framework for transportation and mobility planning in Corona. These laws and regulations are briefly described along with their relevance to the general plan update.

Global Warming Solutions Act (AB 32)

In 2006, the Global Warming Solutions Act (AB 32) was signed into law, establishing a comprehensive program to reduce greenhouse gas emissions (GHG) causing climate change. This bill required the California Air Resources Board to develop regulations to reduce GHGs to 1990 levels by 2020. The reduction goal for 2020 is to reduce GHG by 25% of the current rate in order to meet 1990's level, and a reduction of 80% below current rates by 2050. The AB 32 Scoping Plan contains the statewide GHG reduction strategies, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms (e.g., cap-and-trade system), and regulations to fund the program. The City is working to implement these regulations through an update to its Climate Action Plan.

General CEQA Reform, VMT - Senate Bill 743 (SB 743)

SB 743 changed the process for how to analyze transportation impacts under CEQA. SB 743 required the California Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to Level of Service for evaluating transportation impacts. Particularly in areas served by transit, the alternative criteria must promote the reduction of greenhouse gas emissions, development of multi-modal transportation networks, and diversity of land uses (Public Resources Code 21099(b)(1)). Measurements of transportation impacts may include vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated rather than auto delay (Id. at subd. (b)(2).). However, transportation impacts related to air quality, noise and safety must still be analyzed under CEQA where appropriate (Id. at subd. (b)(3).).

California OPR has developed guidelines for determining which impacts and projects are exempt from CEQA consideration with respect to traffic. The City has transit priority areas where exemptions may be granted. The City updated its CEQA guidelines in April 2019 and developed significance criteria for traffic impacts that are consistent with those allowed under SB 743.

Riverside County Congestion Management Program (CMP)

Every county in California is required to develop a Congestion Management Program (CMP) that looks at the links between land use, transportation, and air quality. In Riverside County, the Riverside County Transportation Commission (RCTC) prepares the

county's CMP, last updated in 2011, to meet both federal and state CMP mandates and regulations. The Southern California Association of Governments (SCAG) is required under federal planning regulations to determine that CMPs within its region are consistent with the Regional Transportation Plan. RCTC's adopted minimum Level of Service threshold is LOS "E". Local agencies whose development impacts cause the level of service on a road segment to fall to LOS "F" must prepare deficiency plans. The plan must contain mitigation measures, including Transportation Demand Management strategies and transit alternatives, and a schedule of mitigating the deficiency. Corona has several intersections that are in the Riverside County CMP.

Regional Transportation Plan

SCAG addresses regional transportation planning as part of its Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). The RTP/SCS is a long-range plan that is updated every four years, most recently in 2016. The 2016–2040 RTP/SCS covers land use and circulation-related topics, including but not limited to: active transportation, aviation, goods movement, highway and arterial roadways, and transit and passenger rail. In addition to modes of travel, the RTP addresses issues such as congestion management, transportation demand management, financing, and transportation safety/security. The RTP process also involves the prioritization of various transportation projects. State and federal transportation agencies use the RTP process and prioritization of projects to allocate funds for transportation projects.

Transportation Uniform Mitigation Fee (TUMF)

The Western Riverside Council of Governments developed the Transportation Uniform Mitigation Fee (TUMF) program to generate funds for necessary improvements to the regional transportation system. TUMF is a development impact assessment that provides funding for transportation improvements that are required to support new development. The assessment is based on the number of vehicle trips new development or site improvement will generate. Local jurisdictions may choose not to collect TUMF; however, jurisdictions not collecting TUMF forfeit their share. TUMF funds are planned to widen the following roads in Corona:

- Sections of Ontario Avenue from Lincoln Avenue to I-15
- Foothill Parkway extension from Trudy Way to Paseo Grande (completed)
- Cajalco Road from I-15 to Temescal Canyon Road (completed)
- Temescal Canyon in the southern tip of the City in the SOI
- McKinley Road at SR-91
- Main Street from Ontario Avenue to SR-91
- 6th Street from SR-91 to Main Street
- Railroad Street from Smith Avenue to Buena Vista Avenue

California General Plan Law

California law requires that general plans include a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, and terminals, all correlated with the land use element. The circulation element is not simply a transportation plan, but a strategy addressing infrastructure needs for the circulation of people, goods, energy, water, sewage, storm drainage, and communications. In accordance with the Complete Streets Act of 2011, the circulation element must also include a plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel suited to the rural, suburban, or urban context of the general plan. "Users" include bicyclists, children, persons with disabilities, motorists, movers of goods, pedestrians, transit riders, and seniors.

Corona 2004 General Plan

The General Plan includes circulation as a key theme of its vision. It specifically states that "Corona will be a city where people, goods and services move safely and efficiently. It will provide efficient access and mobility for all residents and visitors, be it by car, transit, bicycle, or walking. These will be integrated and scaled to support the land use pattern…." The General Plan includes eight circulation goals:

- **Goal 6.1.** Provide streets that meet the needs of residents and businesses and facilitate safe and efficient movement of people and goods throughout the City while accommodating future growth consistent with the Land Use Element.
- **Goal 6.2.** Support development of a network of regional roadway facilities that ensures the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and regional travel demands.
- **Goal 6.3.** Maximize circulation system efficiency through transportation system management strategies. Reduce total vehicular miles traveled in Corona through alternative transportation modes and the reduction in trip distances.
- **Goal 6.4.** Support the development of a public transportation system that provides mobility for residents and encourages use of public transportation as an alternative to automobile travel.
- **Goal 6.5.** Develop and maintain convenient bikeway and hiking trail systems to satisfy both recreational desires and transportation needs. Coordinate with the Riverside County Plan and the Santa Ana River Trails Plan.
- **Goal 6.6.** Provide an adequate supply of convenient parking for all developments in the City, … consistent with the goals of managing transportation demand.
- **Goal 6.7.** Support goods movement to and from land uses in the City without adverse impacts to residents or businesses from rail or truck congestion, noise, or air quality impacts.
- **Goal 6.8.** Pursue alternative funding for transportation improvements, including federal, state, and private sources through grants, fair-share impact fees, and other mechanisms.

3.2.2 Existing Conditions

This section describes the City's circulation network, including its roadways, pedestrian and bicycle network, transit, and various related issues associated with the transportation system in Corona.

Roadway Classification

Due to its location, topography, and patterns of development, Corona has one of the more extensive street networks in Riverside County. Corona is connected regionally and bisected by I-15 and SR-91, which provide north-south and east-west connectivity to the broader region. An extensive network of local roads serves Corona. Primary streets include Main Street, Magnolia Avenue, Lincoln Avenue, California Avenue, Railroad Street, Rimpau Avenue, Fullerton Avenue, Hidden Valley Parkway, River Road, 6th Street, Ontario Avenue, Foothill Parkway, and Green River Road.

Corona's roadways are grouped into functional classifications based on two general criteria; first, the extent to which the road prioritizes the through movement of traffic; and second, the level of access to adjacent properties. Aside from these generalized characteristics, roadways vary in terms of right-of-way, width, number of lanes, intersection and traffic signal spacing, speed, and other characteristics. Functional class is identified in the General Plan and Street Design Standards.

Table 3-1, City of Corona Roadway Classifications, describes roadway types.

Table 3-1 City of Corona Roadway Classifications

Classification	General Purpose
Major Arterial	Major arterials have the highest traffic-carrying capacity, with the highest speeds and limited interference with traffic flow from driveways or abutting properties. They may be four or six lanes depending on traffic volumes, and may have center medians. Parking may or may not be allowed. Major arterials are 82 to 106 feet wide curb-to-curb within a 106- to 130-foot right of-way. Key major arterials include portions or all of Main Street, Magnolia Avenue, Ontario Avenue, Cajalco Road, River Road, McKinley Avenue, Grand Boulevard, and Green River Road.
Secondary Arterial	Secondary arterials connect traffic from collector streets to streets of higher classification with limited access to abutting properties. These arterials are usually four-lane streets and may have center medians. Secondary arterials carry some through traffic and may or may not provide on-street parking or Class 2 bike lanes. Secondary arterials are designated as 64 feet wide curb-to-curb within an 88-foot right-of-way. Secondary arterials include Foothill Parkway, Lincoln Avenue, and Hidden Valley Parkway.

Table 3-1 City of Corona Roadway Classifications

Classification	General Purpose
Collector	Collectors serve as the intermediate routes in a road network. Collector streets may handle some localized "through" traffic from one local street to another; however, their purpose is to connect local streets to the arterial network. Collectors typically are 44 feet wide curb-to-curb (typically 2 lanes) within a 68-foot right-of-way and are often equipped with sidewalks and bicycle routes on one or more sides.
Mixed Use Boulevard	Mixed use boulevards are streets that serve land use patterns in the City's mixed use land use districts. While no guidance on street standards are in the City's standard engineering plans, the General Plan provides some guidance. A prime example of a mixed use boulevard is Main Street, which is not designated as such. This street runs through the Circle and is designed to support a mixed use district.
Special Residential	Special residential arterials are a new type of street classification and are intended to accommodate land use patterns in the City's Circle and surrounding environment. There are currently no special residential boulevard standards in the City's standard engineering plans. The General Plan provides some guidance for these specifications.
Local Street	Local streets principally provide vehicular, pedestrian, and bicycle access to property that is directly abutting the public right-of-way. Movement of "through" traffic associated with collectors is discouraged. Local streets are 40 feet wide curb-to-curb within a 64-foot right-of-way and have two lanes (one in each direction). Sidewalks are included.
Private Street	Streets not maintained by the city, and principally provide access to and within developments. Most of these streets are located within multifamily residential developments; however, a few private streets are within single-family residential neighborhoods. Residents and/or homeowner associations manage and maintain these streets.
Rural Streets	Rural roads carry vehicles in very low volumes and can only be used in appropriate locations. The rural road carries less than 100 vehicles daily and has a 28-foot-wide travel width and 50-foot right-of-way. The high traffic volume rural road may carry up to 200 vehicles per day, and generally has a 36-foot travel width within a 50-foot right-of-way.

Sources: Corona General Plan, 2004; Corona Street Design Standards, 2016.

The Corona General Plan also contains a transportation corridor study area. The City continues to work with the County in developing future multi-modal transportation corridors in the western part of the county. The Community and Environmental Transportation Acceptability defines four primary linkages, including possible corridors south of the City to Orange County that would help alleviate SR-91 traffic congestion.

Figure 3-1, Roadway Classifications, on the following page identifies the backbone network of higher-volume streets in Corona.

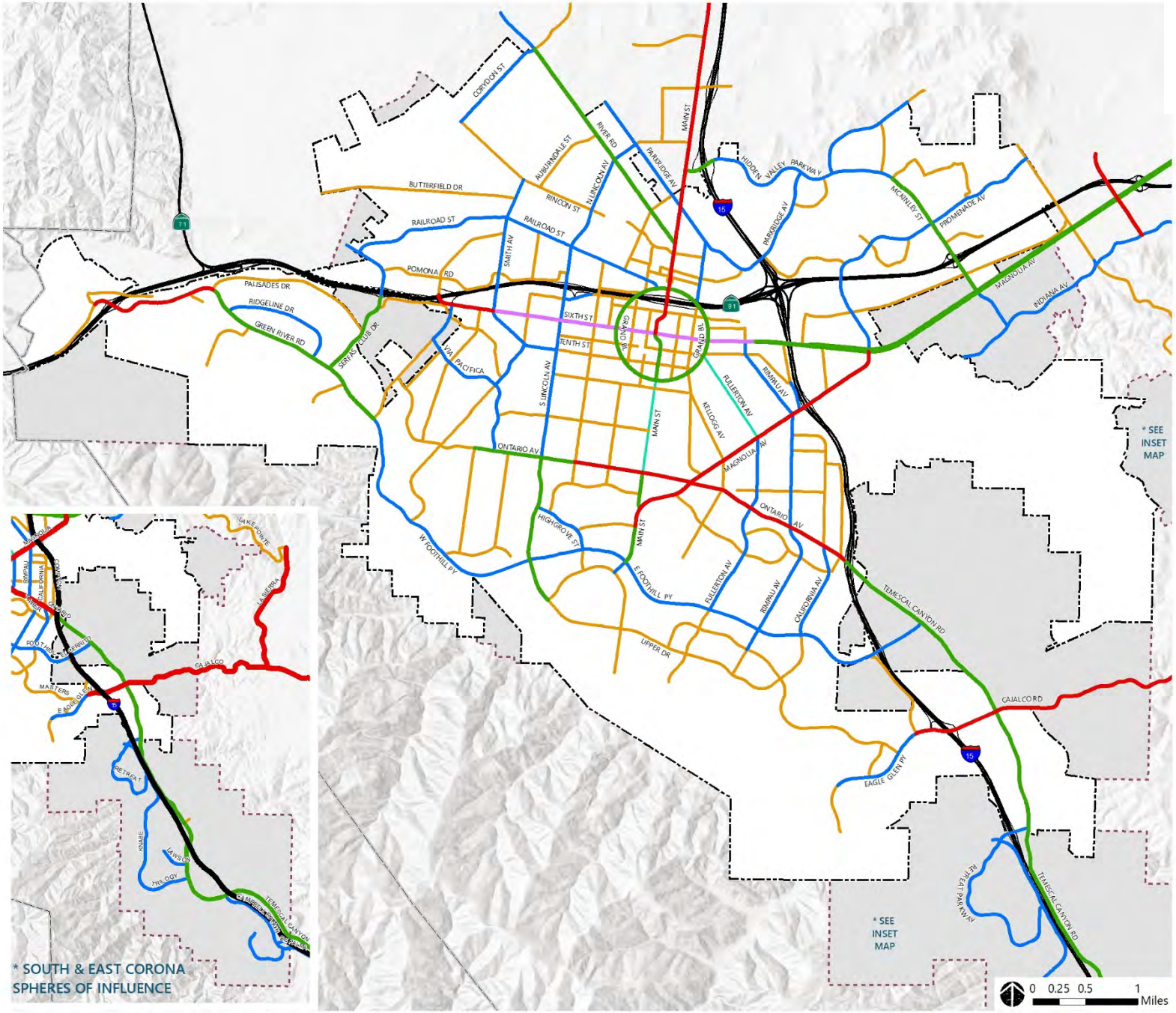


Figure 3-1 Current Roadway Network

Legend

- Freeway
- Major Arterial 6 Lane
- Major Arterial 4 Lane
- Mixed Use Boulevard 4 Lane Divided/Undivided
- Secondary 4 Lane
- Collector
- Special Residential
- City Boundary
- Sphere of Influence Areas

Source: City of Corona, 2019

CORONA General Plan

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Transit Network

Corona has a well-balanced transit system, as shown on Figure 3 3, Transit Routes. The City provides intercity buses, local buses, demand-responsive service, and commuter rail—all of which help people access employment opportunities, housing, and community services. It is important that Corona continue to invest and improve local transit service, since the most frequent users include transit-dependent groups such as older adults, persons with disabilities, and students.

Table 3-2, Transit System overview, provides a summary of transit options in Corona and is followed by a more in-depth discussion.

Table 3-2 Transit System Overview

Service	Overview
Corona Cruiser	City-operated local transit service, operating 2 routes, with approximately 169,500 boardings annually.
RTA Transit	Riverside Transit Agency (County) operated transit serving the entire county, including the City of Corona.
Metrolink	Regional passenger rail service serving Corona and providing connections throughout southern California.
Paratransit	Specialized RTA-operated transit providing services to seniors and people with disabilities.

Corona Cruiser

The Corona Cruiser operates two fixed-route services. The Blue Line serves the McKinley Street retail area, then travels to Magnolia Avenue, Main Street, and the River Road area. This route passes many trip generators such as hospitals, medical facilities, public service agencies, library, civic center, and commercial/retail areas. This route also serves the unincorporated area of Home Gardens. The Red Line connects central Corona with commercial areas along Sixth Street and the Ontario Avenue/California Avenue retail area. The Red Line also covers South Corona along Ontario Avenue/Temescal Canyon Road to serve El Cerrito, The Crossings complex at Cajalco Road/Temescal Canyon Road, and The Shops at Dos Lagos on Saturdays.

According to the Corona Cruiser Short-Range Transit Plan, 152,000 trips are served by the Corona Cruiser each year.[1] Of that total, 43 percent include the general public, 23 percent include seniors and people with disabilities, and 25 percent include students. According to the 2018–2020 Short-Range Transit Plan, the City of Corona is planning to enhance passenger amenities at bus stops to help improve the overall experience of transit riders. The City plans to: install a new bus stop to service a medical office building on Fullerton Avenue, make improvements at five stops to ensure accessibility and

[1] City of Corona Short-Range Transit Plan, FY2018–FY2020.

service, install three passenger shelters, and replace five passenger benches to enhance accessibility. In terms of coverage, RCTC found that most of the urbanized area and 73 percent of Corona's population had access to a Cruiser route within ¾ mile. The primary exceptions were: unpopulated areas to the east of El Cerrito, portions of the northern Corona Hills, sparsely populated areas around the airport, and most areas to the west of Green River Road and Foothill Parkway. In addition, the Cruiser also has excellent connectivity with other bus routes (RTA) and Metrolink commuter rail.

Regional Transit Providers

A majority of the available public transportation is provided by the Riverside Transit Agency (RTA) via fixed route bus services. RTA provides four bus routes in Corona, with routes that connect to the West Corona Metrolink Station, the City of Fullerton, the City of Murrieta, and Lake Elsinore. RTA provides several routes that serve Corona as well as 2,500 square miles in western Riverside County. The routes connect to the cities of Riverside, Norco, and Orange, and access the Corona Park-N-Ride Lot and the West Corona Station on Metrolink's Commuter Rail system. RTA routes also provide opportunities to link with the Corona Cruiser.

Corona is tied to the Orange County and the Riverside County job market, which creates a significant demand for transit service. RTA has also identified high- use corridors where enhanced transit service is in demand. RTA's commuter express bus route (206) connects Corona, Lake Elsinore, Murrieta, and Temecula and operates during peak morning and evening hours. OCTA operates the Riverside/Corona to South Coast Metro Express route 794 that travels along the SR-91 and SR-55 freeways. As of 2017, RTA is implementing its RapidLink program from UCR to Downtown Riverside to Corona Transit Station. RapidLink offers more frequent bus stops (15-minute headways), smaller buses, free Wi-Fi, and other amenities to attract transit riders.

Paratransit

Paratransit is an alternative mode of flexible passenger transportation that does not follow fixed routes or schedules. Vans, mini-buses, and taxis are typically used to provide paratransit service. Paratransit services vary considerably on the degree of flexibility they provide their customers. At their simplest, they may consist of a taxi or small bus that will run along a more or less defined route and stop to pick up or discharge passengers on request. At the other end of the spectrum (fully demand-responsive transport), the most flexible paratransit systems offer on-demand call-up door-to-door service from any origin to any destination in a service area.

The Dial-A-Ride program, which has been operated by the City of Corona since 1977, is an on-demand, shared-ride transit system. The service provides mobility to seniors and persons with disabilities. Riders call ahead to schedule their trip, and can receive curb-to-curb service in the City and neighboring areas. Dial-A-Ride offers service Monday through Saturday for seniors, disabled people, and Medicare Card Holders. The Corona Dial-A-Ride has approximately 66,000 passenger trips in Corona each year. Figure 3-2 illustrates the current transit routes that operate throughout Corona.

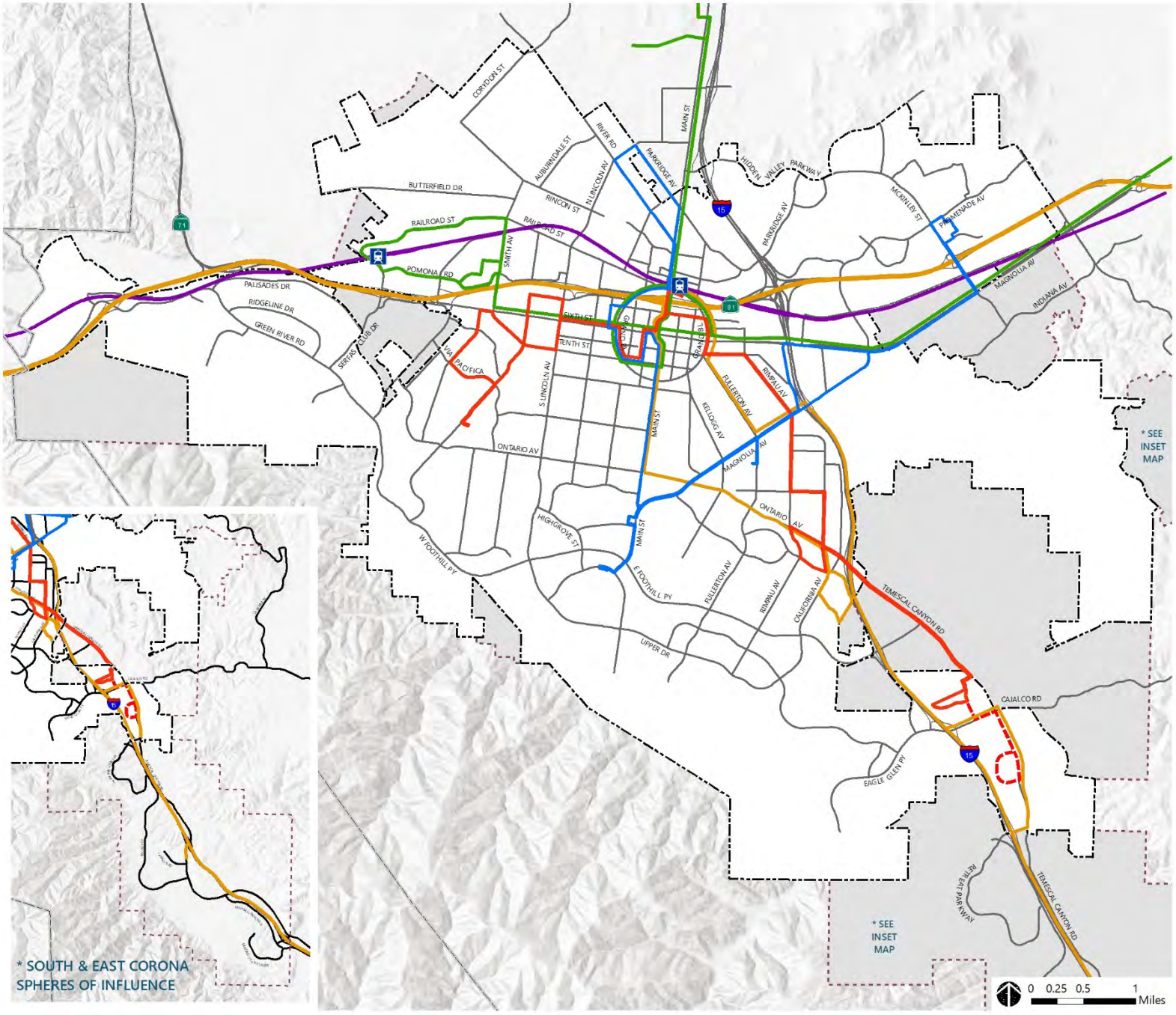


Figure 3-2 Current Transit Routes

Legend

City of Corona

- Corona Cruiser Blue Line
- Corona Cruiser Red Line
- Corona Red Line (Saturday Only)

Intercity Routes

- Riverside Transit Agency
- Freeway Commuter Routes (RTA/OCTA)
- Metrolink Commuter Rail
- Metrolink Station
- City Boundary
- Sphere of Influence Areas

Source:
Corona 2019;
Riverside Transportation Agency 2019

CORONA General Plan

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Metrolink

Metrolink is a commuter rail program operated by the Southern California Regional Rail Authority. Metrolink provides passenger rail service from outlying suburban communities to employment centers such as Burbank, Irvine, and downtown Los Angeles. The 91 Line and the Inland Empire/Orange County Line serve the Metrolink stations in West Corona and North Main Corona. The West Corona station is on Auto Center Drive near SR-91, and the North Main Corona station is on Blaine Street just east of North Main Street.

The Metrolink 91 Line provides access between Riverside and Los Angeles, while the Inland Empire/Orange County Line provides access between Irvine and Riverside. The 2016-2017 ridership figures show daily weekday ridership on the 91 Line at about 2,800, while the Inland Empire/Orange County Line has over 4,500 daily weekday riders. The West Corona station has parking for approximately 526 automobiles, and has bicycle lockers. The North Main Corona station has approximately 1,400 automobile parking spaces and contains an electric-vehicle charging station.



The Metrolink 10-year strategic plan highlights several changes in the demand and use of commuter routes through 2035. Specifically, there is a projected decline of 66% or 40 fewer daily trips to the Union Station area in Los Angeles from North Main Corona. However, there will be an increase of 262% or 143 more daily trips to and from North Main Corona and Santa Ana.[2] Parking analysis shows that Corona will have a surplus of parking in 2035 conditions. Corona may consider the demand for greater first mile last mile services further into the future and for persons travelling into Corona for work.

[2] Our Future Is On Track, Metrolink 10-Year Strategic Plan, 2015–2025 and Technical Appendices, Southern California Rail Authority, prepared by Parsons, 2015.

Pedestrian Network

Safe, convenient, attractive, and well-designed pedestrian and bicycle facilities are essential if these modes are to be properly accommodated and encouraged. The Corona General Plan, Circulation Element, calls for a pedestrian trail system. Specifically, the plan calls for the development of better pedestrian amenities to enhance the environment, reduce vehicle emissions, promote healthier lifestyles, and reduce automobile trips. Active modes of transportation are environmentally friendly alternatives to motor vehicles that enhance both personal and social well-being.

To provide an assessment of the pedestrian network to inform the General Plan, seven factors that affect walkability and the pedestrian experience were analyzed citywide. In short, these factors are:

- **Sidewalk Continuity.** Communities are more walkable if sidewalks do not end abruptly and are present on the entire segment and both sides of a roadway. This is especially important for mobility-impaired users or families using strollers. Sidewalks should be free of appurtenances, such as utility boxes and poles.
- **Sidewalk Conditions.** This refers to the physical condition of sidewalk surfaces. Sidewalks that are broken or cracked can pose a safety hazard; particularly for mobility-impaired users, such as those in wheel chairs, using walkers, or pushing strollers. Sidewalks should also be sufficient in width to accommodate all users.
- **Shading.** People are more inclined to walk in areas where there is shade present, particularly in Southern California with its relatively warm weather and limited rainfall. Additionally, larger trees with canopies that provide shade create an aesthetic value that is pleasing to pedestrians and bicyclists.
- **Steepness of Grade.** People are generally more inclined to walk in neighborhoods or business areas that are relatively flat or have limited grade changes, particularly in the case of families with strollers, people with mobility disabilities, or individuals that need to carry items long distances.
- **Amenities.** All else being equal, persons are more inclined to walk in areas that are interesting environments with shopping, retail, restaurants, and other similar uses. Pedestrian-friendly amenities include street furniture, attractive paving, high visibility crosswalks, frequent crossings, slower vehicle speeds, way-finding signage, enhanced landscaping, and pedestrian-level lighting.
- **Buffers.** A more walkable environment includes some degree of separation between the pedestrian and the motorist. This typically includes wider sidewalks, street parking, and sidewalk bulb-outs at intersections where feasible. Crosswalks with appropriate signage serve as an important buffer as well. Vegetation and trees can provide more attractive buffers from adjacent traffic.
- **Safety.** In southern California, where traffic volumes and speeds are high, safety is a key concern. Pedestrians must feel that the roadway is safe in order to use it. Even in neighborhoods where there are supposedly safe routes to school, parents will not allow children to walk to school on high speed routes where accidents are common or where speeds are high enough to be safety concerns.

As part of this circulation and mobility report, a general assessment was performed of the overall pedestrian environment. Table 3-3, General Evaluation of Corona's Pedestrian Network, provides a summary of the findings based on the above criteria. Overall, Corona's pedestrian environment supports walking, but could be improved in selected locations with amenities and safety enhancements.

Table 3-3 Evaluation of Corona's Pedestrian Network

Criteria	Evaluation
Sidewalk Continuity	Most major roadways in Corona have continuous sidewalks on one or both sides. Most residential streets have continuous sidewalks on both sides of the street. This generally provides a good opportunity for walking, provided the sidewalks are adequate in size, well-maintained, and safe. In certain areas, such as the sphere of influence, continuity may not be present.
Sidewalk Conditions	Sidewalks are generally in good condition, free of cracks, fissures, or uplift. Corona has also improved sidewalks in older neighborhoods that lack accessibility. Sidewalks are generally wide enough to accommodate multiple users, though in some cases utility boxes or landscaping obstruct use. The City is implementing a regular program to repair and rehabilitate sidewalks.
Shading on Route	Generally, shading on Corona sidewalks is extensive. Most shading is provided in central parts of the City, such as Downtown. There is also extensive shading throughout the city, including suburban tracts. Some shade is provided by trees on private properties adjacent to sidewalks. In few cases, there is no shading whatsoever.
Grade of Route	Several major arterials have slopes, especially in southern portions of the City. Some residential streets are built on a significant grade, particularly in the Corona Hills and in southern Corona. In other cases, some major arterials near the downtown are relatively flat. Land areas with limited slope tend to be more encouraging for walking and bicycling.
Amenities Offered	Portions of 6th Street provide a mix of land uses that make walking trips more attractive. Most bus stops offer a bench or shaded bus shelter, but several stops have aging facilities or no shade. The City has few traffic calming amenities on neighborhood streets, which can make walking less attractive, especially for children or older adults.
Buffers from Streets	Parking is generally not permitted along major arterials. Buffers that exist consist of bike lanes and some landscaping. Bike lanes on streets provide a buffer between sidewalks and moving vehicle traffic.
Pedestrian Safety	Safety and perceptions of safety affect pedestrian activity in Corona. As discussed later in this chapter, pedestrian accidents are a concern. An average of 47 collisions involving pedestrians occur each year in Corona. Compared with peer cities, the high number of collisions involving pedestrians would place Corona in the middle tier of comparable cities.

Source: Fehr and Peers, Technical Report for the General Plan Update, 2017

Bicycle Network

Improving walking and bicycling facilities can improve the public's desirability for short distance trips, school trips, and recreational activities, while also enhancing the City's urban environment. By shifting mode share to include higher rates of active travel, the City can reduce greenhouse gas emissions, promoting a healthy lifestyle, consistent with AB 32. In 2001, the City of Corona developed and adopted a Bicycle Master Plan, which was recertified on March 15, 2006. The Plan calls for bicycle lanes on various streets in order to increase emphasis on active transportation.

Corona bicycle lane classifications are described below.

Class I Bikeways (Bike Paths)

Class I bikeways are separate facilities designated for the exclusive use of bicyclists and pedestrians with minimal vehicle crossings. Five Class I bikeways are at the following five locations: parallel to SR-91, entering the Santa Ana River Trail; a path connecting West Foothill Parkway and Mangular Avenue; Skyline Drive Path; along Foothill Parkway connecting Spring Meadow Drive and Heartland Way; and along Foothill from Border Avenue to Chase Drive.



Class I Bicycle Path on Foothill Parkway

Class II Bikeways (Bike Lane)

Class II Bikeways are striped lanes designated for the use of bicycles on a street or highway. Vehicle parking and vehicle/pedestrian cross-flow are permitted at designated locations. Class II Bikeways have also been employed as traffic calming measures throughout Corona to assist in narrowing lane widths and limiting vehicle speeds. Class II Bikeways are the most prevalent type of route; more than 60 miles of bike lanes have been built in Corona.



Class II Bicycle Path on East Harrison

Class III Bikeways (Bike Routes)

Class III Bikeways, also referred to as bike routes, are only identified by signs or pavement markings. A bicycle route is meant for use by bicyclists and motor vehicle travel; in other words, both bicyclist and motorist share roadway use and right-of-way. This is the most common type of bikeway in southern California. Corona has 7.7 completed miles of Class III Bikeways and 36.5 miles planned. Given the shared right-of-way, however, there are safety concerns if bike routes are placed along streets where vehicle speeds are higher or where views around corners are impeded.



Class III Bicycle Route on South Buena Vista

Class IV Bikeways (Cycletracks)

Assembly Bill 1193 legalized and established design standards for Class IV bikeways. Class IV bikeways are protected bike lanes that provide a right-of-way designated exclusively for bicycle travel within a roadway, protected from vehicular traffic with devices such as curbs, flexible posts, inflexible physical barriers, or on-street parking. Corona does not have Class IV bikeways, but now that Caltrans officially recognizes Class IV bikeways, or "cycletracks," the City can consider installation of such bikeways.

Bicycle Boulevards

Bicycle boulevards are low-volume and low-speed streets parallel to a major commercial corridor that promote bicycle travel through design. Traffic calming devices such as speed humps, curb extensions, or bicycle boxes are used to encourage bicycle movement and discourage through vehicle movement. The Bicycle Master Plan "recommends that the City consider streets and treatments for bicycle boulevards." Currently, Corona does not have any of these facilities.

Table 3-4, Corona's Bikeway Network, summarizes the City's current bicycle network. Figure 3-3 on the next page shows the location of bicycle lanes throughout Corona.

Table 3-4 Corona's Bikeway Network

Bicycle Facility	Completed Miles	Planned Miles	Total Miles
Class I (Bicycle Path)	1.5	19.6	21.1
Class II (Bicycle Lane)	60.4	36.6	96.7
Class III (Bicycle Route)	7.7	36.5	44.2
Class IV (Cycletrack)	0.0	0.0	0.0
Total	69.6	92.4	162.0

Source: Fehr and Peers, Technical Report, City of Corona 2018
Note: Where bicycle facilities differ on a roadway segment (e.g., one side of the road is a Class I and the other side a Class II), centerline miles were calculated by assigning the dual facility roadway segment to the facility with the most protection.

To meet the demand for bikeway facilities from the community and to improve safety for users of all ages and abilities, the City should update its bicycle master plan to ensure the community's needs and desires are met. The update can include additional bicycle facilities, such as cycletracks (Class IV) and bicycle boulevards, particularly in the Grand Circle Area. The Bicycle Master Plan update should also reconsider the use of bike lanes or routes on the same streets as truck routes because these two uses are not compatible and could create safety hazards. A layered-networks approach should be employed to keep the modes separate when possible.

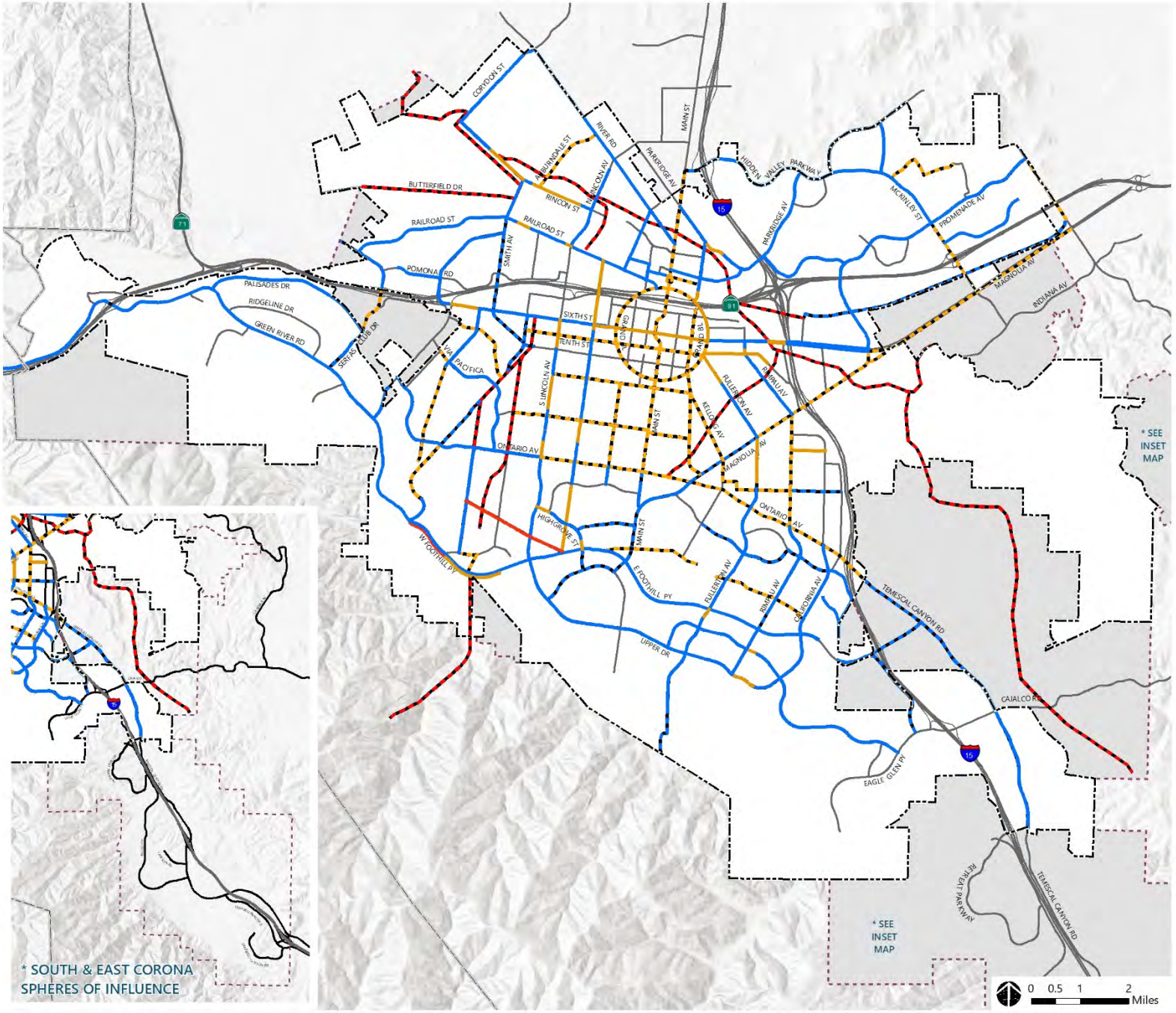


Figure 3-3 Corona's Bikeway Network

Legend

Existing Bikeways

- Existing Class I
- Existing Class II
- Existing Class III

Proposed Bikeways

- Proposed Class I
- Proposed Class II
- Proposed Class III
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2017

CORONA General Plan

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Roadway Performance

Roadway performance refers to the Level Of Service (LOS) on roadways. LOS is a qualitative measure describing the efficiency of traffic flow as perceived by motorists traveling in a traffic stream. LOS also includes quantitative measurements such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. Measurements are graduated, from LOS A (representing free flow and excellent comfort for the motorist, passenger, or pedestrian) to LOS F (reflecting highly congested traffic conditions where traffic volumes approach or exceed the capacities of streets, sidewalks, etc.).

For the Circulation Element update, intersection LOS is measured to determine the peak-period operating characteristic at all key intersections in the City. Intersections are typically the most critical locations for bottlenecks and congestion since the right-of-way must be shared by cross-traffic. The City of Corona Traffic Impact Study Guidelines ("Guidelines") use volume-to-capacity (V/C) ratios to analyze the LOS for different roadway segments in the city. The LOS thresholds are defined by the type of roadway, which is based (in part) on the number of lanes within a roadway segment and the presence of dividers.

LOS D is the minimum threshold goal for a systemwide LOS on City arterials and collectors. The minimum LOS D objective for the roadway system reflects the City's desire to maintain stable traffic flow throughout the City, recognizing that peak-hour congestion may occur at locations near freeways or other locations with unusual traffic characteristics due to regional traffic flow. Corona's General Plan and City traffic planning practice set forth the following LOS thresholds using the current Highway Capacity Manual:

» LOS C or better shall be maintained on local intersections in residential areas

» LOS D or better shall be maintained on collector and arterial intersections

» LOS E will be permitted for the following intersections:

- Lincoln Avenue at SR-91
- Main Street at SR-91
- McKinley Avenue at SR-91
- Hidden Valley Parkway at I-15
- Cajalco Road at I-15
- Weirick Road at I-15
- Other locations as approved by the City Engineer

Table 3-5, Roadway Segment Analysis of Major Arterials, displays roadway segments, capacities, daily volumes, V/C ratios, and LOS for major roadway segments in Corona. Fehr and Peer has observed congestion at intersections within these segments, such as Green River Road and Magnolia Avenue, during the peak hours due to freeway congestion on SR-91 and I-15. However, the roadway segment analysis accounts for total daily traffic and does not account for peak hour congestion.

Table 3-5 Roadway Segment Analysis of Major Arterials

Road	Segment	Classification	Capacity	Average Daily	V/C Ratio	LOS
Sixth Street	Smith Ave to Sherman Ave	Mixed Use (4L))	35,900	20,800	0.58	C or Better
	Buena Vista Ave to Grand Blvd	Mixed Use (4L))	35,900	23,800	0.66	C or Better
	Main St to Grand Blvd	Mixed Use (4L))	35,900	20,600	0.57	C or Better
Main Street	Grand Blvd to 91 Freeway	Major Arterial (6L)	53,900	25,300	0.44	C or Better
	Parkridge Ave to Rincon St	Major Arterial (6L)	53,900	31,000	0.58	C or Better
Magnolia Avenue	S Main St to Santana Way	Major Arterial (6L)	53,900	14,300	0.27	C or Better
	Kellogg Ave to Fullerton Ave	Major Arterial (6L)	53,900	25,100	0.47	C or Better
	Rimpau Ave to El Sobrante Rd	Major Arterial (6L)	53,900	46,500	0.86	D
	All American Way to E 6th St	Major Arterial (6L)	53,900	19,300	0.36	C or Better
Lincoln Avenue	Ontario Ave to Old Mill Rd	Secondary (4L)	25,900	21,700	0.84	D
	Eighth St to Sixth St	Secondary (4L)	25,900	24,500	0.95	E
	Rincon St to River Rd	Secondary (4L)	25,900	21,600	0.83	D
Hidden Valley	Parkridge Ave to Corona Ave	Secondary (4L)	25,900	20,300	0.78	C or Better
	Corona Ave to Garland Way	Secondary (4L)	25,900	19,700	0.76	C or Better
River Road	Corydon St to Country Club Ln	Major Arterial (4L)	35,900	21,400	0.60	C or Better
	Lincoln Ave to Cota St	Major Arterial (4L)	35,900	13,000	0.36	C or Better
	Cota St to Main St	Major Arterial (4L)	35,900	10,900	0.30	C or Better
Ontario Avenue	Oak Ave to Lincoln Ave	Major Arterial (6L)	53,900	17,400	0.32	C or Better
	Main St to Magnolia Ave	Major Arterial (6L)	53,900	27,300	0.51	C or Better
	Compton Ave to I-15 N. On Ramp	Major Arterial (6L)	53,900	47,000	0.87	D
Foothill Pkwy	Lincoln Ave to Highgrove St	Secondary (4L)	25,900	13,800	0.53	C or Better
	Monticello Dr to Fullerton Ave	Secondary (4L)	25,900	19,600	0.76	C or Better
	Rimpau Ave to California Ave	Secondary (4L)	25,900	20,400	0.79	C or Better
Cajalco Road	I-15 to Grand Oaks	Major Arterial (6L)	35,900	30,800	0.86	D
	Grand Oaks to Temescal Canyon Rd	Major Arterial (6L)	35,900	18,800	0.52	C or Better
McKinley Street	Mt Humphries St to Promenade Ave	Major Arterial (4L)	35,900	26,400	0.74	C or Better
	Promenade Ave to Griffin Way	Major Arterial (4L)	35,900	27,700	0.77	C or Better
	Griffin Way to SR-91 WB Ramps	Major Arterial (6L)	53,900	52,200	0.97	E
Grand Blvd	Eighth St to E Sixth St	Major Arterial (4L)	35,900	13,300	0.37	C or Better
	Victoria Ave to Main St	Major Arterial (4L)	35,900	7,600	0.21	C or Better
	W Sixth St to Third St	Major Arterial (4L)	35,900	10,900	0.30	C or Better
	Railroad St to Main St	Major Arterial (4L)	35,900	10,000	0.28	C or Better
Green River	SR 91 EB Ramps to Dominguez Ranch	Major Arterial (4L)	35,900	22,300	0.62	C or Better
	Canyon Crest Dr to Ridgeline Dr	Major Arterial (4L)	35,900	17,500	0.49	C or Better
	Serfas Club Dr to Paseo Grande	Major Arterial (4L)	35,900	19,500	0.54	C or Better

Source: Fehr and Peers, Technical Report, City of Corona, 2017
Note: Fehr and Peer has observed congestion at intersections within these segments, such as Green River and Magnolia, during peak hours due to freeway congestion on SR-91 and I-15. However, this analysis accounts for total daily traffic and does not account for peak

Parking Facilities

Corona has five park-and-ride facilities available to commuters. Park-and-ride lots are made possible through partnerships with private property owners, Caltrans, and the RCTC. Parking lots are strategically located to serve people who need a place to store their vehicle while they use a carpool, vanpool, public transit, or Metrolink. As shown in Table 3-6, the City has approximately 2,500 parking spaces for commuters.

Table 3-6 Park and Ride Facilities in Corona

Facility	Operator	Number of Stalls	Transit Connections
Corona – Grand	Caltrans	272	RTA, Cruiser, Metrolink
Corona Friends Church	RCTC	87	N/A
Living Truth Christian Church	RCTC	70	N/A
Canyon Community Church	RCTC	75	OCTA
Park-Ride- Corona North Main	RCTC	1,386	RTA, Cruiser, Metrolink
Park-Ride- Corona West Main	RCTC	526	RTA, Cruiser, Metrolink
Tom's Farms	RCTC	48	RTA

Source: Caltrans, Annual Average Daily Truck Traffic on the California Highway System, 2015, Retrieved at: http://www.dot.ca.gov/trafficops/census/docs/2015_aadt_truck.pdf



According to the SCAG 2016 RTP/SCS approved project list, RCTC has more park-and-ride facilities planned for Corona by 2020. Corona currently has about 13% of commuters carpooling to work, and more lots will provide opportunities to increase the share of workers who carpool to work, helping meet AB 32 goals.

Goods Movement

Goods movement is necessary for the vitality of Corona and the region as a whole. It includes a wide range of infrastructure to move people and goods locally, regionally, and across state lines. In Corona, key infrastructure includes the interstate and state highways system, local truck routes, and the railroad network.

Interstate, State, and Local Routes

A critical piece of the goods movement infrastructure is the interstate freeway system. SR-91 and I-15 are both links of the Primary Freeway Network (PFN) designated by the federal government as major interstate freeways. These freeways accommodate more than 15,000 truck trips daily. They carry a mix of cargo, including local, domestic, and international. They also serve as critical evacuation routes during emergencies. As shown in Table 3-7, Truck Traffic Volumes on State Routes, truck traffic on the freeways made up about 6% to 8% of total daily travel in 2015.

Table 3-7 Truck Traffic Volumes on State Routes

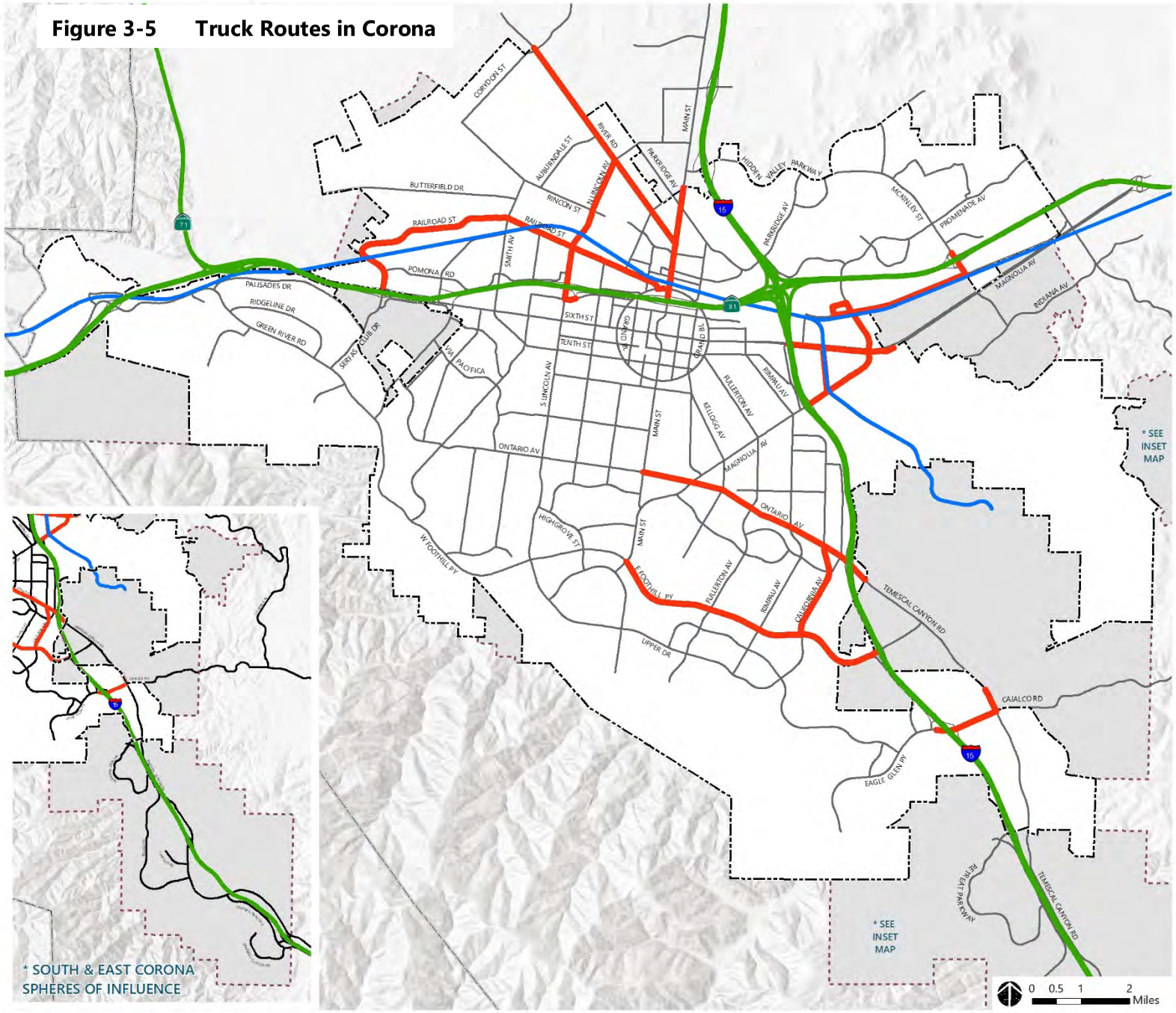
Description	Vehicle Annual ADT	Truck AADT	Truck Percent of Total
SR-91/Main St	247,000	16,080	6.5%
SR-91/Main St	233,000	14,120	6.1%
SR-91/McKinley St	219,000	14,804	6.8%
SR-91/McKinley St	209,000	16,072	7.7%
SR-15/SR-91	187,000	10,492	5.6%
SR-15/Magnolia	169,000	N/A	N/A
SR-15/Ontario	174,000	N/A	N/A
SR-15/El Cerrito	169,000	N/A	N/A
SR-15/Cajalco Road	159,000	N/A	N/A

Source: Caltrans, Annual Average Daily Truck Traffic on the California Highway System, 2015, Retrieved at: http://www.dot.ca.gov/trafficops/census/docs/2015_aadt_truck.pdf

Note: Vehicle AADT was not available for interchanges along the I-15

While freight movement through Corona will continue to be primarily via trucks using the City's arterials and freeways, a substantial and increasing portion will use railways. Corona is bisected by the Burlingham Northern Santa Fe (BNSF) Transcomm line, which extends from the Port of Los Angeles eastward into the Inland Empire. With the expansion of economic activity in Los Angeles, the City can expect rapidly increasing volumes of rail transport moving through the community. To address that long-range trend, the City is working to install grade-separated rail crossings where feasible. Figure 3-4, *Goods Movement Routes*, shows the location of goods movement routes.

Figure 3-5 Truck Routes in Corona



N-105

Figure 3-4 Goods Movement Routes

Legend

- Local Truck Routes
- Freeway Truck Routes
- BNSF Railroad
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2019

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Roadway Safety

Improving and maintaining the safety of motorists, bicyclists, and pedestrians is a key goal of the City. The Public Works Department and the Police Department are responsible for designing and maintaining a safe environment along roadways.

Vehicle Accidents

Vehicle accident trends provide an indicator of the safety of Corona's roadways. A traffic collision is defined as any event where a vehicle strikes any object while moving. That object could be another car, a pedestrian, or a fixed item (e.g., light post). When collisions cause damage or injury, the details are recorded by the local law enforcement agency and stored in the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS). Corona's Crossroads database, which includes the latest SWITRS data (2014-2017), was used to analyze collisions in Corona.

The top three cited factors contributing to collisions are unsafe speed (26%), right-of-way violation (17%), and unsafe lane change (13%). Key trends are summarized below and displayed in Table 3-8.

- **Vehicle collisions.** The number of vehicle collisions jumped 30% between 2014 and 2016, largely due to freeway construction, but dropped off in 2017.
- **Pedestrian collisions.** The number of pedestrian-vehicle collisions has gradually increased 16% since 2014 to a high of 51 collisions in 2017.
- **Bicycle collisions.** The number of bicycle-vehicle collisions have gradually increased by 23% since 2014 to a high of 37 collisions in 2017.

Table 3-8 Roadway Collisions in Corona, 2014–2017

	Annual Collisions				
Type of Collision	**2014**	**2015**	**2016**	**2017**	**Average**
Bicycle–Vehicle Collisions	30	24	35	37	31
Pedestrian–Vehicle Collisions	44	48	47	51	47
Vehicle–Train Collisions	0	0	2	0	<1
Other Vehicle Collisions	1,604	1,783	2,096	1,739	1,805

Source: City of Corona Crossroads Database, 2014–2017

The Corona Police Department has been proactive in implementing programs to reduce the number and severity of vehicle collisions in Corona. The Corona Police Department continually seeks grants to provide traffic safety education, DUI checkpoints, and traffic enforcement. In addition, the Corona-Norco Unified School District developed a bicycle, pedestrian, and traffic safety brochure promoting safe practices, backed by the California Vehicle Code.

Cut-thru Traffic

Corona experiences significant cut-thru traffic on City streets during peak commute hours due to the SR-91 and I-15 freeways that bisect the community. As a way to avoid traffic congestion at the SR-91 and I-15 interchanges, people traveling through Corona on the east-west or north-south corridors will use other travel routes to bypass freeway congestion—such as Green River Road, Magnolia Avenue, Hidden Valley Parkway, Ontario Avenue, Foothill Parkway, and 6th Street. Accidents on the freeways also result in vehicles travelling along city streets instead of the freeways.

Cut-thru traffic exacerbates congestion and greenhouse gas emissions on City streets. Widening City roads and adding capacity is not optimal nor a long-term sustainable practice, since it ultimately induces more trips on the same roadways. To reduce the incentive for drivers to bypass the freeway and use local streets for regional trips, the City can evaluate the most used roads for cut-thru traffic and propose traffic calming treatments on local and collector streets to discourage cut-thru traffic.

Certain neighborhoods experience cut-thru traffic and may benefit from traffic calming or diversion measure, such as chokers, chicanes, or roundabouts. Moreover, many cities across the state are successfully installing traffic calming measures. The City could revisit the issue as a way to reduce cut-thru traffic and improve safety. The City also implements a neighborhood traffic management program.

Emergency Response

Effective response to emergencies is a key to reducing injuries and fatalities. The Corona Police Department offers 24-hour patrol services and response. Officers work closely with the Communications Center, which receives calls for service and dispatches information to police units through digital and audio formats. The Communications Center receives more than 240,000 telephone calls and around 110,000 dispatch incidents annually, which includes 4,300 emergency calls annually. During times of heavy congestion, emergency response times can be delayed.

Another concern in Corona is emergency response during a natural disaster. Many of the critical north-south routes leading out of Temescal Canyon to Corona, including the I-15 and Temescal Canyon Road, are bordered by very high fire severity zones and/or 100-year flood zones that could impede transport during a fire or storm event. The northwest portion of Corona in the Sierra del Oro area, Airport south of Prado Dam, and along the SR-91 lie within a 100-year flood zone or very high fire severity zone that could impede travel and emergency response during a natural disaster. The need for alternative evacuation routes is an important circulation and planning issue that should be addressed in the City's emergency or hazard mitigation plans.

3.3 WATER, SEWER, AND STORM DRAINAGE

This chapter provides an overview of the City's water, sewer, and storm drainage infrastructure, including demands for these types of services. Included is the regulatory context, description of infrastructure, and demand for services.

3.3.1 Regulatory Framework

The following federal, state, and local regulations influence the context for planning the provision of water, sewer, storm drainage, and recycled water to Corona.

Safe Water Drinking Act

The federal Safe Drinking Water Act regulates the nation's drinking water and gives the US Environmental Protection Agency (EPA) the authority to set national drinking water standards and regulations. All public water systems that provide service to 25 or more individuals must meet these standards. Water purveyors must monitor for contaminants on fixed schedules and report to the EPA when a maximum contaminant level is exceeded. Contaminants include organic and inorganic chemicals, substances that are known to cause cancer, radionuclides, and microbial contaminants (e.g., coliform and E. coli). The California Department of Public Health is responsible for implementation of the Safe Drinking Water Act in California

California Water Codes

The State Water Code (Section 461) was intended to establish the importance of water recycling to the state of California and its role in meeting demands for water. The Water Recycling Act of 1991 established a statewide goal to recycle a million acre-feet of water per year by 2010. In order to achieve this goal, the act required retail water suppliers to identify potential uses for recycled water within their service areas, potential customers for recycled water service within their service areas, and, within a reasonable time, potential sources of recycled water. The City implements this mandate through the installation of more than 51 miles of reclaimed water lines, tertiary level wastewater treatment plants, and a wide variety of other activities and programs that are set forth in its Reclaimed Water Master Plan.

In accordance with the Water Code (Section 13550), public agency, including a state agency, city, county, city and county, or district shall not use water from any source of quality suitable for potable domestic use for nonpotable uses, including cemeteries, golf courses, parks, highway landscaped areas, and industrial and irrigation uses if suitable recycled water is available and meets the following conditions:

- The source of recycled water is available and of adequate quality for these uses
- The recycled water may be furnished for these uses at a reasonable cost
- After concurrence with the State Department of Public Health, the use of recycled water from the proposed source will not be detrimental to public health; and
- The use of recycled water for these uses will not adversely affect downstream water rights, will not degrade water quality, nor injure plant life, fish, and wildlife.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code §§ 13000 et seq.) is the basic water quality control law for California. Under this act, the State Water Resources Control Board has been delegated control over state water rights and water quality policy and the authority to issue National Pollutant Discharge Elimination System permits. The State Board, through its nine Regional Water Quality Control Boards, carries out the regulation, protection, and administration of water quality in each region. Each regional board adopts a Water Quality Control Plan (or Basin Plan).

The Santa Ana River Basin Plan was adopted in 1995. This Basin Plan provides policy and regulatory direction on the beneficial uses of the state waters in Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards.

National Pollutant Discharge Elimination System

The federal Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) program as a key tool for maintaining the quality of surface rivers and groundwater basins. The NDPES establishes requirements for the discharge of urban runoff from Municipal Separate Storm Sewer Systems (MS4), which are ditches, curbs, gutters, storm sewers, and similar means of collecting or conveying runoff that are not connected with a wastewater collection system or treatment plant.

The State Water Resources Board approved a MS4 permit for Riverside County (Order No. R8-2010-003), of which Corona and other cities in the county are co-permittees. Pursuant to the 2010 MS4 Permit, each co-permittee was required to update and implement a drainage area management plan for its jurisdiction as well as local implementation plans, which describe the co-permittee's urban runoff management programs for existing and proposed dischargers in the jurisdiction.

Urban Water Management Plan

State law requires that urban water suppliers with more than 3,000 customers, or who deliver more than 3,000 acre-feet of water per year adopt water management plans that evaluate water supplies and demand for a 20-year period. Urban water management plans are to be prepared very five years or when significant changes occur in the supply of and demand for water. Based on the plan, water providers explore enhancing basic supplies from traditional water sources and other options, such as groundwater extraction, water recycling, water banking or conjunctive use, etc.

In Corona, three water providers—the Corona Department of Water and Power, Temescal Valley Water District, and Western Municipal Water District (a wholesaler)—are required to prepare UWMPs. Home Gardens and Eagle Valley water districts are exempt from this requirement because they do not meet the minimum number of connections and/or population. The last round of UWMPs prepared for Corona, western Riverside, and Temescal Valley were adopted in 2015/2016.

20x2020 State Water Conservation Plan

The California Water Conservation Act of 2009, also referred to as SBX7-7 or 20x2020, requires the State to reduce its urban water demands 20% by 2020. The 20x2020 Water Conservation Plan was issued by the Department of Water Resources in 2010 pursuant to SB 7, dubbed SBX7-7. SBX7-7 mandated water conservation in urban communities and authorized DWR to prepare a plan implementing water conservation requirements. In addition, it required agricultural water providers to prepare water management plans, measure deliveries to customers, and implement other efficiency measures.

SBX7-7 requires urban water providers to adopt a water conservation target of 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use. Individual water agencies have flexibility in designing incentives to achieve the water reduction goals. Corona's goals for water conservation and measures chosen to achieve those goals are in Chapter 13.26 of the City's Municipal Code.

Corona 2004 General Plan

The City of Corona recognizes the interrelated nature of its water resources and addresses the provision of water, sanitation/sewer services, and storm drainage as part of the Infrastructure and Utilities chapter of its General Plan. Seven key goals, listed below, are supported by approximately 58 policies.

- **Goal 7.1.** Establish and maintain a secure water supply and water treatment, distribution, pumping, and storage systems to meet the current and projected future daily and peak water demands of Corona.
- **Goal 7.2.** Minimize water consumption through site design, the use of water conservation systems, and other techniques.
- **Goal 7.3.** Ensure the costs of improvements to the water supply, transmission, distribution, storage, and treatment systems are borne by those who benefit.
- **Goal 7.4.** Provide a wastewater collection and treatment system that supports existing and planned development. Where necessary, upgrade existing deficient systems and pursue funding sources to reduce costs of wastewater service.
- **Goal 7.5.** Ensure that all wastewater collection and treatment facilities continue to be operated in a manner that maximizes public safety.
- **Goal 7.6.** Establish and maintain adequate planning, construction, maintenance, and funding for storm drainage and storage control facilities to support permitted land uses. Upgrade existing deficient systems to accommodate new permitted development and protect existing development within Corona and pursue public funding to reduce fiscal impacts of implementation.
- **Goal 7.7.** Ensure that urban runoff from existing and new development does not degrade the quality of the City's surface waters, groundwater system, and other sensitive environmental areas.

3.3.2 Existing Conditions

This section provides a discussion and analysis of water, sewer and sanitation, and storm drainage infrastructure and services in Corona.

Water System

The City provides water service for Corona serving 39 square miles and parts of its SOI (Coronita, Home Gardens, and El Cerrito). The Home Gardens Water District serves the Home Gardens area with water and the Home Gardens Sanitary District provides sewer service. The Eagle Valley Mutual Water Company serves the Eagle Valley area; and the Temescal Valley Water District serves the City's southern SOI (Figure 3-6).

Corona Water Supply

Corona serves approximately 167,764 customers, including residential, commercial, industrial, and other land uses. The City's water infrastructure includes approximately 640 miles of water mains, 21 booster stations, and 17 storage (reservoir) tanks to store water for daily and emergency use. Twenty two (22) production wells draw from the groundwater basins. Additionally, the City has 5 water booster stations and 3 reservoirs for reclaimed water. In total, Corona's water system produces 40 million gallons per day in the summer and 20 million gallons per day during the winter months.

As is the case with most communities in southern California, the City receives water from a mix of local groundwater basins and imported water sources. The City's three groundwater basins provide approximately 40% of its water supply. Twenty two (22) wells are designed with a capacity to provide up to 39,200 acre-feet per year (afy) of water. Sixty percent of water is imported from Western Municipal Water District, from either the Colorado River or the State Water Project from northern California.

In Table 3-9, Corona Water Supply and Demand, shows that the City forecasts adequate water supplies in normal years to meet demand through 2040.

Table 3-9 Corona Water Supply and Demand, 2020-2040

	Projections for Normal Year (Acre-Feet)				
Water Supplies	**2020**	**2025**	**2030**	**2035**	**2040**
Imported Water	28,365	28,365	28,365	28,365	28,365
Groundwater: Coldwater Basin	2,596	2,596	2,596	2,596	2,596
Groundwater: Temescal Basin	15,435	15,435	15,435	15,435	15,435
Reclaimed Water	10,000	10,000	10,000	10,000	10,000
Total Supplies	56,396	56,396	56,396	56,396	56,396
Demand	39,533	39,514	39,555	39,636	39,636
Surplus	16,863	16,882	16,841	16,760	16,760

Source: Table 6.12 Supply Summary, Corona Urban Water Management Plan, 2016
Note: Home Gardens County Water District (HGCWD) purchases all its water from the City of Corona and its demand and supply figures are included within the overall estimate for Corona

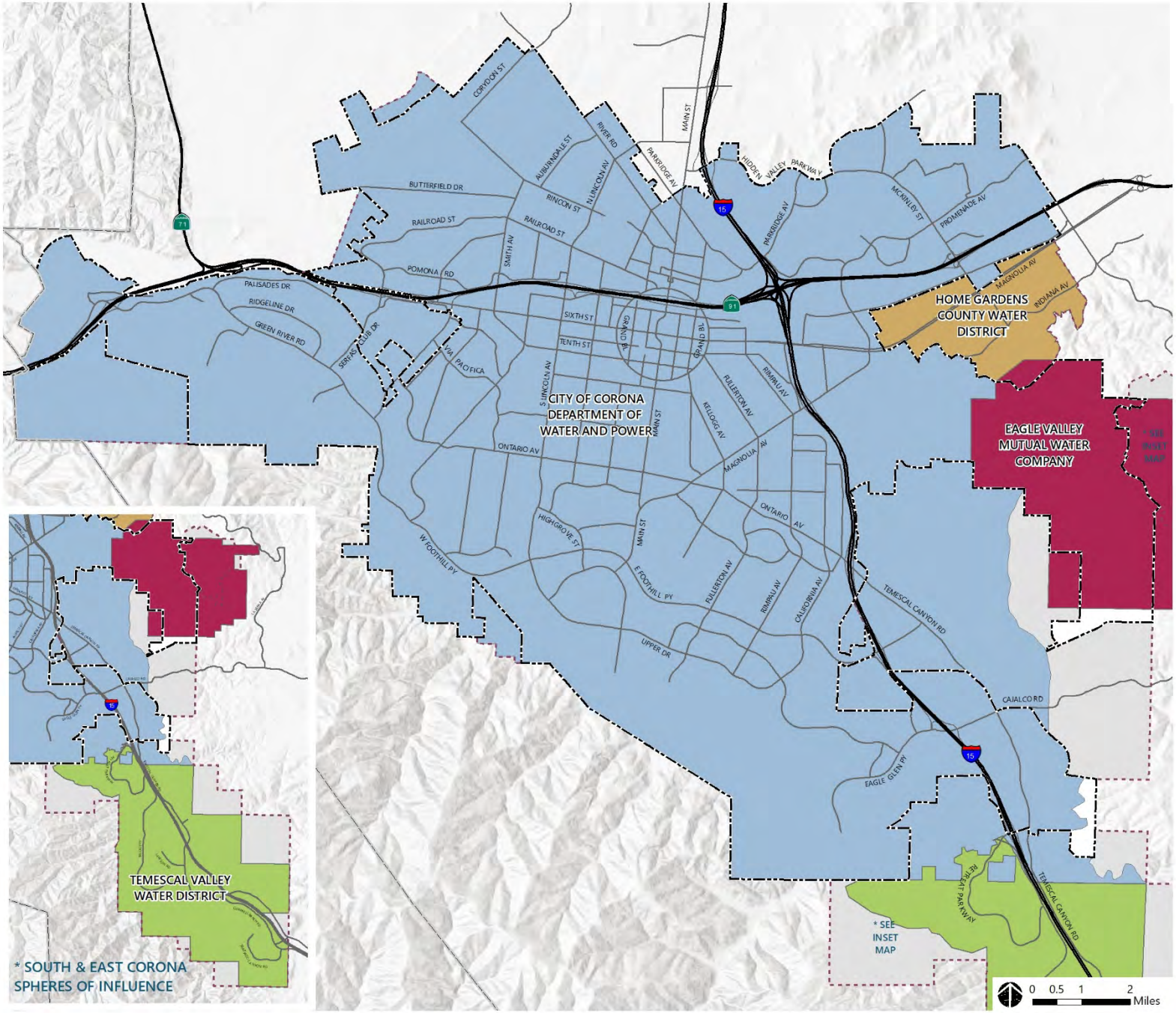


Figure 3-5 Water Districts in Corona

Legend

- City of Corona Department of Water and Power
- Eagle Valley Mutual Water Company
- Home Gardens County Water District
- Temescal Valley Water District
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona 2015 UWMP
County of Riverside 2017

CORONA General Plan

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Temescal Valley

Temescal Valley Water District (TVWD), formerly Lee Lake Water District until 2015, was established in 1965 to provide water and wastewater services to Temescal Valley. TVWD's service area consists of 6,755 acres (roughly 10.5 square miles), of which 450 acres are currently supplied water from TVWD's distribution system. TVWD provides water service to more than 15,085 customers. Areas currently served by TVWD include residential developments in Wildrose, The Retreat, Montecito, Trilogy, and Painted Hills and commercial parcels in the Wildrose East Business Park.

All water delivered to TVWD is imported from Northern California via the State Water Project system and treated at the Mills Water Filtration Plant. The Mills Pipeline serves communities other than those served by TVWD—including part of Corona, Eagle Valley, and other areas in unincorporated Riverside County. Currently, TVWD customers are served from a distribution system that includes 5 storage reservoirs, 5 pump stations, 6 major pressure zones, and 2 smaller hydropneumatic zones.

Table 3-10, Temescal Valley Water Supply and Demand, shows that the TVWD has adequate supplies for the years of 2020–2040.

Table 3-10 Temescal Valley Water Supply and Demand, 2020-2040

	Projections for Normal Year (Acre-Feet)				
	2020	**2025**	**2030**	**2035**	**2040**
Water Supplies					
Imported Water	3,000	3,250	3,500	4,000	4,100
Groundwater: Bedford Basin	1,280	2,115	2,115	2,115	2,115
Reclaimed Water	1,000	2,000	2,500	2,500	2,500
Total Supplies	5,380	7,365	8,115	8,615	8,715
Demand	4,344	5,435	5,690	6,201	6,303
Surplus	1,036	1,930	2,425	2,414	2,412

Source: Temescal Valley Urban Water Management Plan, 2016

Eagle Valley

The Eagle Valley Mutual Water Company supplies nonpotable irrigation water to an agricultural area covering approximately 3,000 acres in Eagle Valley, located west of Lake Mathews. Eagle Valley currently does not pump groundwater at this time and is wholly dependent on the WMWD for nonpotable water supplies. In 2015, Eagle Valley purchased 90 acre-feet of nonpotable imported water from WMWD. WMWD forecasts that it will have more than enough water supplies to meet demands in its service area for wholesale imported water through 2040 (WMWD 2016).

Water Quality

As is the case with most southern California communities, water purveyors blend water from different sources to achieve compliance with state and federal water quality standards. This is particularly the case for communities with a legacy of industrial activities, agricultural land uses, or septic fields. At one time, the vast majority of Corona was covered by agricultural fields, many of which were fertilized with substances that left a high level of salt and nitrate in the groundwater.

The City of Corona receives water from both domestic and imported water sources. The City has adopted a blending and treatment plan to achieve State of California Title 22 water quality standards. Five blending stations and several treatment facilities are used to ensure that tap water meets requirements of the federal and state environmental protection agencies and the California Department of Health Services. Untreated Colorado River is received through the Lower Feeder and distributed to Corona's Lester and Sierra del Oro water treatment plants. The City also receives treated State Water Project water from MWD's Mills Water Treatment Plant.

The state and federal Safe Drinking Water acts require that local governments document the quality of water in an annual report, often called a consumer confidence report. This report details the various sources of water, presence of various contaminants, and maximum contaminant levels allowed under applicable law. The City's Department of Water and Power distributes these consumer reports or makes them available online to customers for free. The City's present water supply meets all state and federal requirements for safe and healthful drinking water.



Sierra Del Oro, Water Treatment Plant

Figure 3-6, Water System, shows the location of water mains in Corona and its SOI.

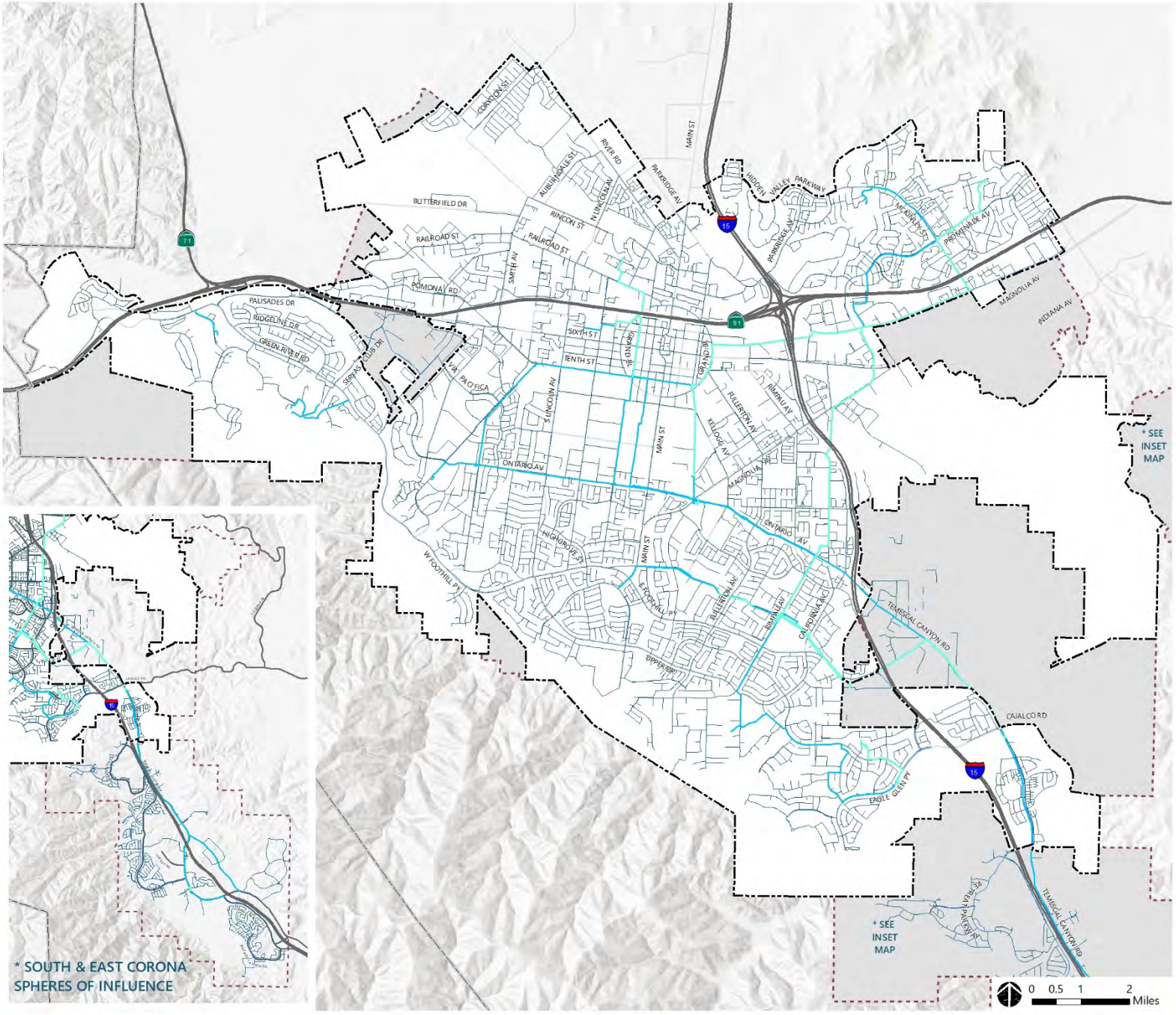


Figure 3-6 Water System in Corona

Legend

Water Lines

- 8" - 12"
- 14" - 18"
- 20" - 28"
- 30" - 48"
- > 48"

City Boundary

Sphere of Influence Areas

Source: Fuscoe, 2017

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Sewer and Sanitation

The City is the primary provider of sewer and sanitation services to Corona. The City's Department of Water and Power, Water Reclamation Division services a population of approximately 168,000 people. The Temescal Valley Water District provides sewer services to the Temescal Canyon area in the City's SOI. The Home Gardens Sanitary District serves the unincorporated Home Gardens area. El Cerrito and Coronita rely on septic systems and are not served by a sanitation provider.

Corona Sewer System

The City is the primary provider of sewer and sanitation services to Corona. The City of Corona Department of Water and Power (DWP), Wastewater Division services a population of approximately 168,000 people over 38.5 square miles. The City sewer system is comprised of 13 sewer lift stations and associated force mains, three water reclamation facilities, and a network of gravity sewer pipes of approximately 368 miles with sizes ranging from 6 inches to 42 inches in diameter. The El Cerrito area is on septic systems. The City also has capacity in the (Western Riverside County Wastewater Authority) WRCRWA Plant; the City has a capacity of 2.62 million gallons per day.

The City of Corona operates three waste reclamation facilities (WRFs) that treat existing flows from residential, commercial, and industrial users. The three WRFs can process up to 15.5 mgd of sewer. In accordance with City standards, sewer is treated to tertiary levels so that it can be used for irrigation purposes (e.g., for parks and landscaping) or safely be discharged to the Santa Ana and Temescal Canyon rivers. The City also has a detailed sewer system management plan designed to minimize overflows and spills. Table 3-11 provides additional details about the WRFs in Corona.



Corona Waste Reclamation Facility #1

Sphere of Influence

The Home Gardens Sanitary District serves the Home Gardens community in Corona. The collection system consists of 16 miles of pipelines of 8- to 15-inch in diameter, and 320 manholes to access the system. The sewer lines connect to the Western Riverside County Regional Wastewater Authority (WRCRWA) in Corona. The WRCRWA is under a joint management authority to treat flows from Norco, Western Municipal Water District, Jurupa Community Services District, Corona, and Home Gardens. The plant treats 14 mgd of sewage at tertiary level prior to discharge into the Santa Ana River.

The Temescal Valley Water District (TVWD) provides sewer collection and treatment services to the City's southern SOI. While much of El Cerrito depends on individual septic systems, certain newer residential developments west of the I-15 are connected to the sewer system. The City of Lake Elsinore also runs sewer collection lines through potions of the Temescal Valley. Several packaged sewage treatment plants are also used to serve certain land uses, such as larger mobilehome parks, in the SOI.

Table 3-11 summarizes sewage treatment plants, level of treatment, and capacity for the facilities serving Corona and its SOI. Figure 3-8 maps the sewer collection system.

Table 3-11 Water Reclamation Facilities Serving Corona and SOI

Water Reclamation Facility	2017 Water Flow (mgd)	Current Treatment Capacity (mgd)	Future Treatment Capacity (mgd)
City of Corona			
WRF 1 (A+B)	11.3	11.5	14.5
WRF 2	2.1	3.0	3.5
WRF 3	0.6	1.0	0.0[1]
WRCRWA[2]	2.37	2.37	2.62
Total City	16.37	16.87	20.62
Sphere of Influence			
WWTP (TVWD)	1.0	2.3	2.3
WRCRWA (HGCD Portion) [3]	0.75	0.75	1.0
SOI Subtotal	1.75	3.30	3.30
Planning Area Total	15.75	18.87	23.92

Sources: Corona City of Corona, 2017. Corona Sewer System Master Plan, 2005
https://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2012/12_028_WDR_Lee_Lake_Water_Dist.pdf
https://www.waterboards.ca.gov/santaana/board_decisions/adopted_orders/orders/2008/08_005_wdr_western_riverside_co_reg_wwtp_07182008.pdf
Notes: MGD – Million Gallons per Day; N/A: not available.

1. WWTP 3 will be decommissioned in the future (DWP Correspondence)
2. The City's current treatment capacity is 2.37 MGD and it is assumed that the current flows and treatment capacity are the same. The City is interested in increasing capacity to 2.62 MGD,
3. Capacity owned by HGSD is 1.0 MGD and the current wastewater flows are 0.75 MGD; however, the WRCRWA has a total of 14.0 MGD.

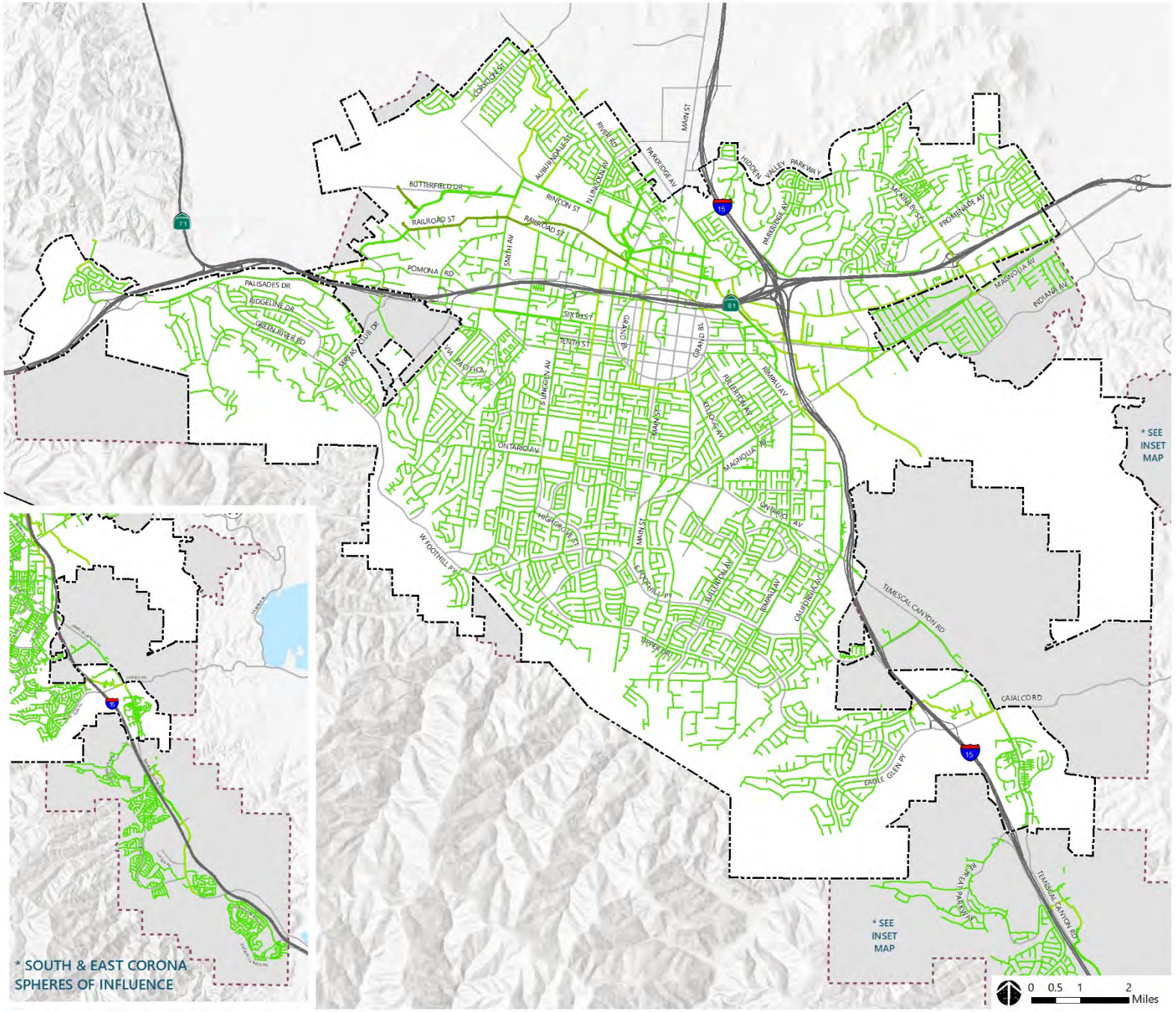


Figure 3-7 Sewer System in Corona

Legend

Sewer Lines

- 8" - 12"
- 13" - 18"
- 19" - 27"
- 28" - 48"
- 49" - 75"
- City Boundary
- Sphere of Influence Areas

Source:
Fuscoe 2017

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Reclaimed Water System

Since the early 2000s, the City has long supported the use and expansion of recycled water use as a long-term strategy for urban water management. It is the policy of the City of Corona that recycled water be used for any purpose or project approved for recycled water use, when it is economically, financially and technically feasible, as mandated by the Recycled Water Ordinance. Use of potable water for non-domestic uses shall be contrary to the City policy, shall not be considered the most beneficial use of a natural resource and shall be avoided to the maximum extent possible.[3]

The City of Corona maintains a significant infrastructure system for reclaimed water production and delivery. The system produces water from three water reclamation facilities (WRF-1, WRF-2, and WRF-3) and two nonpotable wells. Reclaimed water is stored in three storage tanks with a combined capacity of 7 million gallons. Six pumping facilities and 51 miles of reclaimed water lines transport and deliver water. Reclaimed water serves the irrigation needs of 26 City parks, 17 schools, and many City, commercial, industrial, and multi-family residential common area landscaping.

The average annual production from these sources is 11.35 mgd. This level of production is equivalent to 12,700 acre-feet per year (AFY). Supply is anticipated to increase incrementally due to population growth by an additional 0.88 MGD through 2040 (about 7.8%). Existing average reclaimed water demand is 1,411 gpm (2,276 AFY), or about 17.9% of existing production. By agreement with Western Municipal Water District (WMWD) regarding the Prado Settlement, the City discharges 1,625 AFY to the Santa Ana River Watershed. This is about 12.8% of existing production.

Sphere of Influence

The City also participates in the proposed Stagecoach Reclaimed Waterline that will connect Corona, Norco, and the Western Riverside County Regional Wastewater Authority facility in Corona. This waterline will provide access to additional reclaimed water for irrigation and industrial use. In addition, the City has access to the Inland Empire Brine Line. Salty wastewater from industrial operations is redirected from the local wastewater treatment plant to the Brine Line, reducing the salt discharged into the Santa Ana River and ultimately salt which percolates into the groundwater.

In Temescal Valley, recycled water pipelines were built in 2006 to supply recycled water produced at the TVWD sewer treatment plant for landscape irrigation, golf course irrigation, industrial uses, and other Title 22–approved uses. Excess recycled water is dechlorinated and discharged to Temescal Creek. In 2015, the TVWD delivered approximately 910 acre-feet of recycled water. TVWD policy mandates the use of recycled water where feasible, and future developments are anticipated to include dual plumbing or otherwise be designed with recycled water in mind.

[3] City of Corona, Department of Water and Power, Recycled Water Rules and Regulations for Use on Public and/or Private Property, Ordinance No. 2826, Revised by Ordinance No. 2854.

Storm Drainage

Corona resides within the regional Santa Ana River Watershed, a flood control zone monitored by the Santa Ana Regional Water Quality Board and covering portions of the counties of Riverside, Orange, and San Bernardino. In Riverside County this regional watershed is subdivided into the Santa Ana Subwatershed (in which the City lies) and the San Jacinto River Subwatershed. Main facilities are as follows.

- **Temescal Canyon Wash:** This is the major watercourse and flows northwesterly through the northern half of the City. Temescal Wash joins the Santa Ana River at Prado Dam, a flood-control reservoir just northwest of the City limits.
- **Oak Street Channel:** This channel traverses generally from the Oak Street Debris Basin northerly across SR-91 and terminates at the Temescal Wash. The channel is generally concrete lined with various culvert crossings at the major streets.
- **Main Street Channel:** This channel traverses through the southeasterly corner of the City and consists of a concrete-lined, rectangular channel at the upstream end of the channel. It joins the Temescal Wash at Sixth Street.
- **Arlington Channel:** This channel consists of a vertical-wall, concrete-lined section that flows westerly through the Home Gardens area and joins Temescal Wash near the AT&SF Railroad, north of SR-91.
- **Norco Storm Drain:** The south section runs from southwest of Norco through Parkridge Avenue at the City limit and terminates at Temescal Wash. The north section enters City limits at River Road and terminates at Temescal Wash.

Additional storm drains include Bedford Canyon Wash, Joseph Canyon Wash, and Wardlow Wash.

The City's Drainage Master Plan analyzes the capacity of its storm drain facilities and identifies deficiencies and needed capital improvements. The City uses the 10-year and 100-year design storms to assess peak runoff and the ability of the drainage system to handle anticipated flows. The City's objective is for storm drain systems to meet a 10-year storm event. For arterials, the City has adopted criteria to keep one lane open along any given roadway for the 10-year storm. For the 100-year storm, the maximum street flow depth must not exceed the street right-of-way. Ponding is not allowed at major arterial intersections for the 10-year storm. For collectors, depth of flow for 10-year storm runoff must be maintained below the curb top. Collector streets must contain the 100-year storm runoff within the existing street right-of-way.

According to the 2003 Drainage Master Plan, approximately 289 segments were deficient and required new, replaced, or parallel systems. A total of 137 areas had insufficient street capacity, and 152 storm drain segments were deficient. Since the 2003 Drainage Master Plan, improvements have been made to the storm drain system, and ongoing monitoring occurs through the City Maintenance Services Division. Efforts are underway to update the 2003 Drainage Master Plan in the next two years.

Figure 3-8, Reclaimed Water System and Figure 3-9, Storm Drainage System, illustrate the location of reclaimed water and storm drain facilities in Corona.

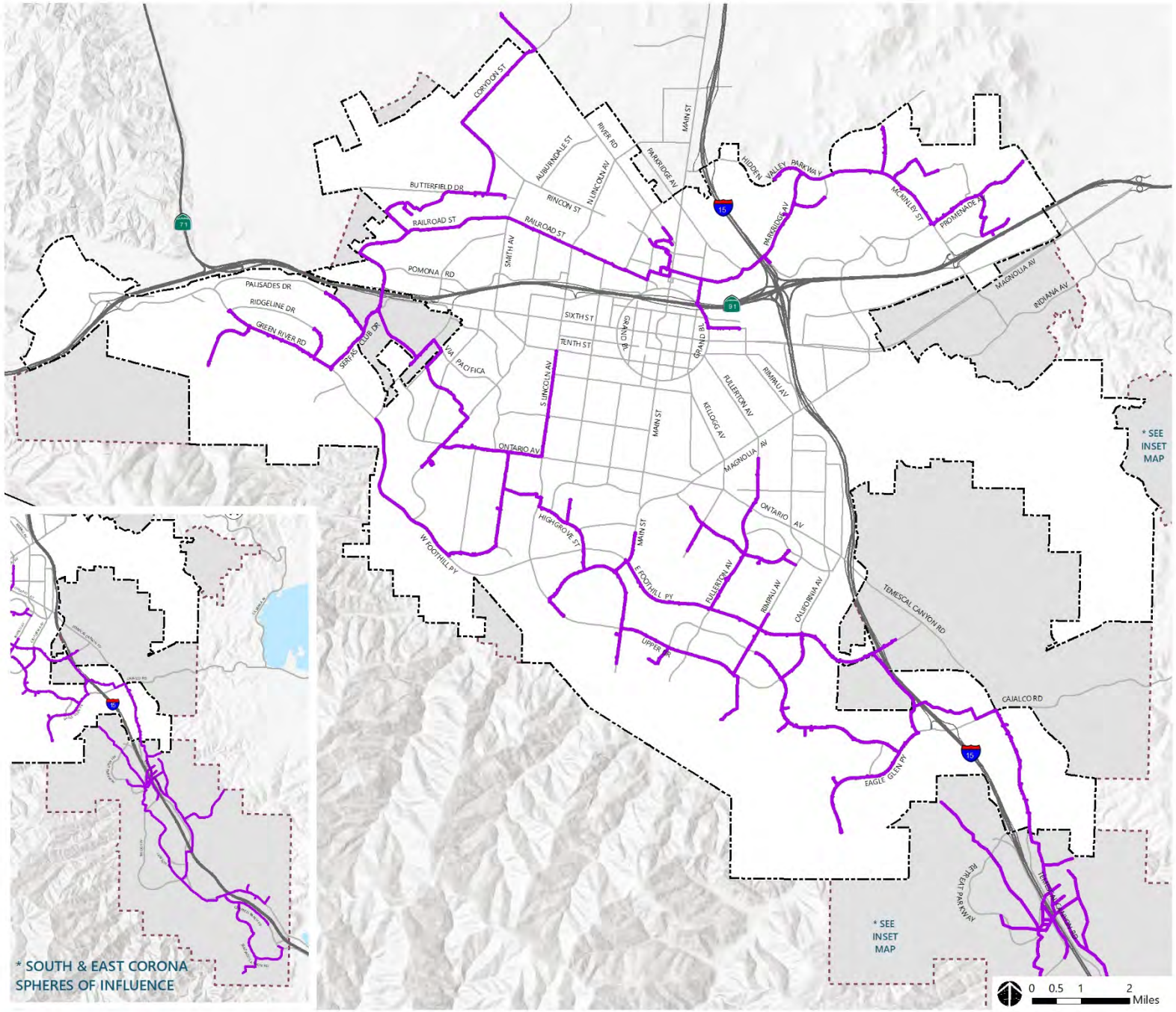


Figure 3-8 Reclaimed Water System in Corona

Legend

- Reclaimed Water Lines
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona 2017

CORONA General Plan

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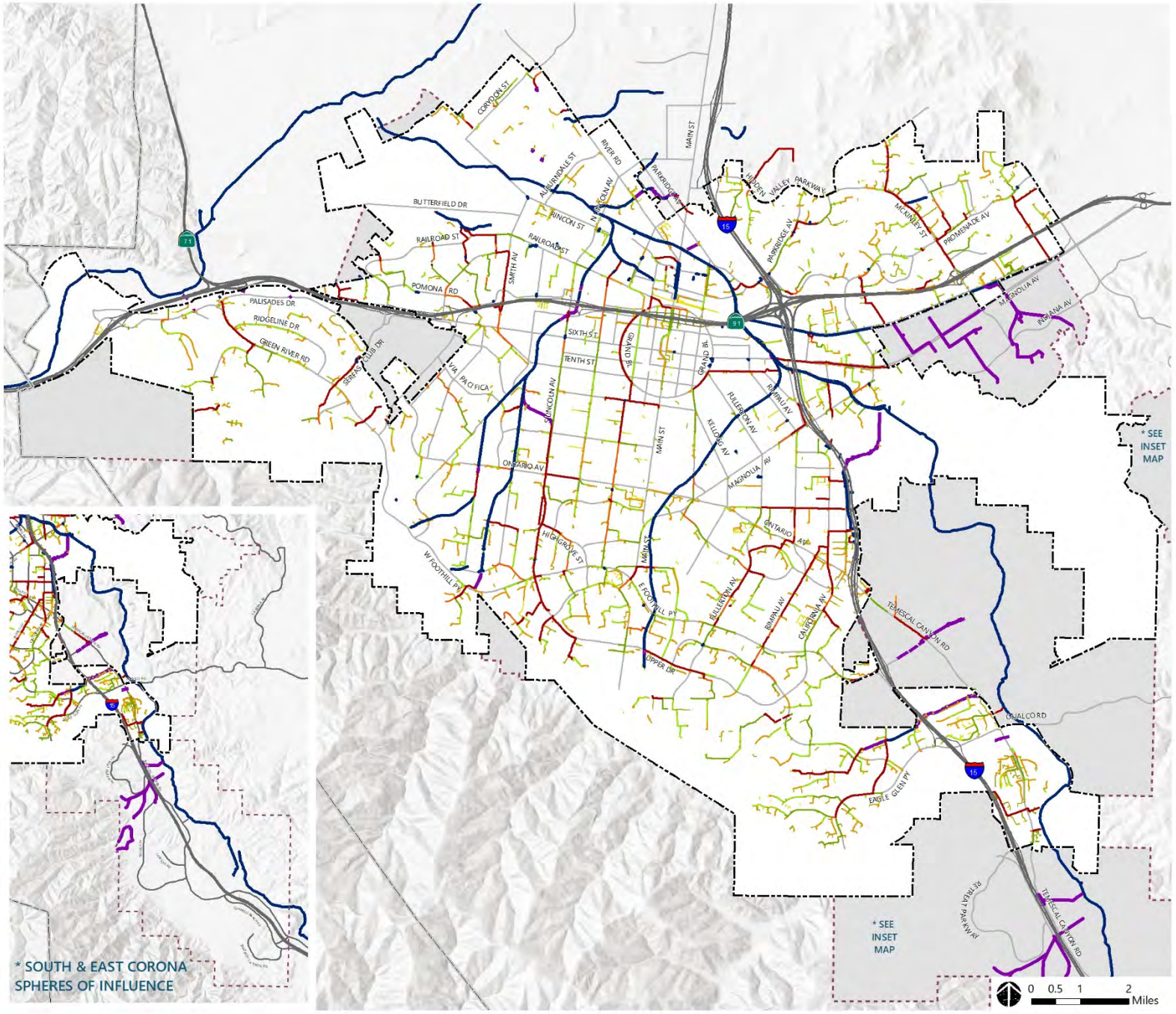


Figure 3-9 Storm Drain System in Corona

Legend

Storm Drain Lines

- 8" to 12"
- 13" to 18"
- 20" to 29"
- 30" to 39"
- 42" to 48"
- 51" to 58"
- 60" to 124"
- Storm Drain Channels
- District Facilities (Riverside County)
- City Boundary
- Sphere of Influence Areas

Source:
Fuscoe, 2017

CORONA General Plan

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Disadvantaged Communities

SB 244 requires cities and counties to address the infrastructure needs of disadvantaged unincorporated communities (DUCs) in city and county general plans, LAFCO Municipal Service Reviews, and annexation decisions. SB 244 requires that the General Plan land use element include an analysis of water, water reclamation, sewer, stormwater drainage, and structural fire systems serving DUCs and any known deficiencies. This requirement is separate from the environmental justice definition of a disadvantaged community, a topic discussed later in this technical background report.

In Corona's SOI, two areas are designated DUCs: Home Gardens and El Cerrito. The following analysis addresses the required issues under SB 244.

Home Gardens

Home Gardens is in eastern Corona and borders the City of Riverside. It contains a mix of residential, commercial, service, institutional, and industrial land uses. The predominant land use is single-family residential. Magnolia Avenue is an important corridor through the area, with higher density apartments, strip commercial, and light industrial uses. The community is laid out on a grid of streets with a casual human scale that is associated with suburban life. Conserved natural open space containing slopes of 25% or greater creates the southwest boundary of Home Gardens.



Home Gardens DUC, Corona

There have been no voter initiatives or proposals for Home Gardens to transition from a county incorporated area to an independent municipality.

Sewer Services

The Home Gardens Sanitation District (HGSD) provides sewer services to the Home Gardens DUC. Sewer pipes range in diameter from 8 to 12 inches and connect to the Western Riverside County Regional Wastewater Authority. This plant, under joint management by the WMWD and the Western Riverside County Regional Wastewater Authority, treats sewer from Corona Norco, Jurupa Community Services District, WMWD, and Home Gardens Sanitary District. The plant treats 14 mgd of wastewater at a tertiary level prior to discharge into the Santa Ana River or use as reclaimed water.

In 2010, the HGSD performed its System Evaluation and Capacity Assurance Plan Report as part of a Sewer System Management Plan to diagnose its primary lines. The system was found to have available capacity for existing and projected land uses. However, its pipe condition evaluation found deficiencies such as cracked and broken pipes, offset joints, and blockages. As of spring 2017, all high-priority improvements to the sewer system listed in the 2010 evaluation had been made, totaling 2,316 feet.

Water Service

Initially, the Home Gardens County Water District provided water to the Home Gardens DUC from wells in the Temescal Basin and Riverside City Water. However, because of the basin's poor water quality, the district has discontinued much of its well supply. Instead, water is purchased from the City of Corona. Water lines in the Home Gardens DUC are 4 to 16 inches in diameter. Since the City is a member agency of WMWD, treatment capacity to deliver water to Home Gardens is adequate, as described earlier. After personal communication with Home Gardens County Water District staff, it has been determined that the majority of the water system was constructed in 1987 and is in good working condition. There are no existing deficiencies to the system.

Storm Drainage

The Home Gardens DUC is primarily designated Zone X (396 acres) with a minimal flood hazard, and a small portion is designated with a 0.2% annual chance flood hazard. In 1970, a Master Plan of Drainage was prepared for the Home Gardens DUC The main channel that flows through Home Gardens is the Arlington Channel. The County of Riverside has responsibility for ongoing maintenance and monitoring of the storm drain infrastructure in the Home Gardens DUC. Currently there are no known deficiencies in the drainage infrastructure servicing the Home Gardens area.

Fire Service

The Home Gardens DUC is highly urbanized and not in a very high fire severity zone. Two county fire stations serve this area: Station 13 at 3777 Neece Street in Corona and Station 14 at 1511 Hamner Avenue in Norco. The average response times are 40 seconds for Station 13 and 6 minutes 16 seconds for Station 14. Both stations strive to meet County response standards 90 percent of the time. Water infrastructure and fire flows are required to meet standards of the City and county. There are no known deficiencies in infrastructure or firefighting capacity for this area.

El Cerrito

El Cerrito is located in southeastern Corona at the entrance to Temescal Valley. Once a large privately owned ranch, the community provides a mix of land uses and residential lots types that is more rural. Most single-family homes are on large lots, from one-quarter acre to several acres, and have lots capable of supporting horses and other animals. Temescal Canyon Road is the main corridor through the area's "business district," whose land uses include industrial, manufacturing, recycling, vehicle storage, commercial, and even residential. El Cerrito Road connects the community to the I-15. A portion of the DUC is covered by the El Cerrito Specific Plan.



El Cerrito DUC, Corona

It should be noted that the City attempted to annex this area in 1991. This would have brought the area within the City's incorporated limits and subject to the full infrastructure and service standards of Corona. Voters rejected the annexation through the protest hearing at LAFCO. El Cerrito continues to be recognized by the LAFCO as a Community of Interest, a status that recognizes local interest in incorporating.

Sewer Services

The El Cerrito DUC area is generally more rural in than the City, and the residential and limited commercial uses are built at lower intensities. As such, the El Cerrito area is served predominantly by individual septic systems. In addition, the El Cerrito area is currently not under an order from the State Water Resources Board to phase out the use of individual septic systems. In fact, the City of Corona continues to allow individuals to use septic systems provided the systems remain in good working order.

Water Services

The City of Corona Department of Water and Power currently provides water services to the El Cerrito DUC. There is no shortage in water supplies for this area. Water system lines are 2 inches to 30 inches in diameter. Since the City is a member agency of WMWD, treatment capacity to deliver water to the El Cerrito DUC is adequate. The City's water system requires certain fire flow standards to be maintained that also apply to the El Cerrito DUC. All fire flow requirements associated with booster stations, pressure regulating stations, and other features of the water system are functioning in the El Cerrito DUC. There are no known existing water deficiencies in the El Cerrito DUC.

Storm Drainage

Most of El Cerrito, about 227 acres, lies within Zone X, outside the 100-year flood zone. The main channel that flows through El Cerrito is the Temescal Wash. The County of Riverside conducts ongoing monitoring of the storm drain system for the El Cerrito DUC. Currently, ongoing projects have been planned to be completed in 2018 as part of the El Cerrito Channel Restoration project. The restoration project will replace an undersized concrete trapezoidal channel with a concrete rectangular channel through the existing location between Ontario Avenue and Minnesota Road and ultimately empties out into the Temescal Creek. The project will provide capacity for a 100-year storm event and up to two additional feet of freeboard to alleviate potential flooding.

Fire Service

The El Cerrito DUC is a rural enclave surrounded by a very high fire severity zone. Wildland fire protection is provided under contract by CAL FIRE, with support from the City of Corona. Station 7, located at 3777 Bedford Canyon, is the primary City fire and police station serving the area. Station equipment includes a paramedic engine company, brush engine, reserve truck company, and reserve engine. Station 7 is staffed by four staff members, more than the three-person standard in the county. Response time is anticipated to be prompt due to its close proximity to El Cerrito. There are no known deficiencies in infrastructure or firefighting capacity for this area.

As of 2017, LAFCO is beginning the next cycle of municipal service reviews. These reviews will cover services in Home Gardens and El Cerrito.

3.4 PARKS, LIBRARIES, AND SCHOOLS

This section describes the regulatory framework for parks and recreation services, and describes and evaluates the various public park, recreation, and library services in Corona provided by the City, the County, and other entities in Corona.

3.4.1 Regulatory Framework

The regulatory setting for parks, recreation, and trails in Corona and its sphere of influence can be found primarily in California state law, the existing Corona General Plan, and local ordinances, as summarized below.

California Government Code

The Government Code (§§65560–65568) requires a general plan to include an open space element to address: the preservation of natural resources, managed production of resources, outdoor recreation, public health and safety, support of military installations, and protection of places of cultural or historical interest. Building permits, subdivision approvals, and zoning approvals must be consistent with the open space plan. The Public Resources Code (§5076) also requires general plans to consider demands for trail-oriented recreational use, demands in developing open-space programs, the feasibility of integrating its trail routes with appropriate segments of the state system. Cities may also create a separate parks and recreation element as part of or in addition to an open space and conservation element.

Quimby Act

The Quimby Act (Government Code § 66477) authorizes local governments to require developers to dedicate parkland and/or pay in-lieu fees as a condition for approving certain types of housing projects. The act allows a city to charge developers for the cost of providing up to three acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the city may adopt a higher standard not to exceed five acres per 1,000 residents. The Quimby Act also specifies acceptable uses and expenditures for such funds, including the provision or improvement of parks located within neighborhoods other than the one with the developer's subdivision and associated residents if certain specific requirements are met.

California Public Park Preservation Act

Providing and preserving an ample amount and quality of parkland to satisfy the recreational interests and needs of the general public is a statewide priority. The primary instrument for protecting and preserving parkland is California's Public Park Preservation Act of 1971. Under this act, cities and counties may not acquire any real property that is currently in use as a public park for any nonpark use unless compensation, land, or both of comparable characteristics and value are provided to replace the parkland and associated facilities. Certain provisions may exempt utilities from this requirement. However, this legislation was enacted to ensure that there is no net loss of parkland and associated facilities in communities.

Corona 2004 General Plan

The Corona General Plan (2004) includes an optional Parks, Schools, and Libraries Element to ensure a balance in the provision of sufficient parks, schools, and library facilities that are appropriate to the planned-for residential and business population of the City, and to enable the City to collect Quimby Act fees for parkland. The Parks, Schools, and Libraries element contains more than a dozen goals, listed below:

- **Goal 8.1.** Establish a hierarchy of open space, including active and passive parks and an interconnected system of public trails, in order to serve the diverse recreation needs of residents and visitors
- **Goal 8.2.** Provide an appropriate range of active and passive parkland facilities to meet park acreage standards and to meet the recreational needs of Corona's population.
- **Goal 8.3.** Increase the amount of parkland in the City of Corona through the planning and development process.
- **Goal 8.4.** Increase the amount of parkland in the City of Corona through financing strategies.
- **Goal 8.5.** Prepare, adopt, and implement a 10-year Parks and Community Facilities Master Plan, updated quadrennially, with identified priorities.
- **Goal 8.6.** Maximize land availability for parkland and maximize efficiencies for recreation programming through joint/multiple use arrangements.
- **Goal 8.7.** Create and maintain a parkland system that is identifiable, safe, and accessible to all users.
- **Goal 8.8.** Establish and maintain a public trail system that provides residents and visitors with safe, useable, and attractive hiking, cycling, and equestrian trails.
- **Goal 8.9.** Ensure that parkland and related recreational facilities are designed, developed, and managed to be compatible with adjacent land uses.
- **Goal 8.10.** Create and maintain a parkland system that takes into account and respects the features of the natural environment.
- **Goal 8.11.** Incorporate features in parks that celebrate the community's historical, natural, and agricultural heritage.
- **Goal 8.12.** Ensure that recreation facilities are maintained, renovated, and upgraded regularly in order to prevent a state of disrepair.
- **Goal 8.13.** Promote public recreation programs and facilities consistent with the demographics of the community.
- **Goal 8.17:** Provide high-quality, accessible library services and facilities necessary to meet the needs of the Corona community.

Library Strategic Plan (2010–2013)

While the General Plan sets forth the broad goals and policies, the Corona Library has adopted a strategic plan (2010–2013) for the purpose of promoting lifelong learning, The plan sets forth the following goals:

- **Patron Service.** People of all ages and backgrounds will have the tools and skills to find, evaluate, and use information resources that best meet their needs.
- **Collection.** People of all ages and backgrounds will find a variety of materials in the languages they read, speak, or understand, to satisfy their personal reading interests and educational needs.
- **Programs.** People of all ages and backgrounds will find a variety of programs and activities to stimulate, enrich, and educate their lives.
- **Building Environment.** People of all ages and backgrounds will find a safe, welcoming, and accessible neighborhood space.
- **Staffing and Safety.** Provide staff and volunteers with tools and skills to perform their jobs at the highest level and in the safest way.
- **Youth Advocacy.** Babies and preschoolers will have access to a wide variety of early literacy programs and materials; school-age children and teens will have access to programs and materials.
- **Literacy.** Adults and families of all ages and backgrounds will have materials and programs to help them reach their personal literacy goals.

Additional goals are set for marketing the library, providing adequate funding for services, and ensuring the library remains an important and viable resource.

Parks, Recreation, Open Space, and Trails Master Plan

The City's General Plan contains a Parks and Recreation Element that provides a significant number of goals and policies governing the provision of such services. However, the City of Corona does not have a comprehensive plan that addresses implementation programs for its parks, recreation, open space, and trails. Significant interest has been expressed in creating such a master plan to include:

- **Natural Trails.** Trail resources would include the Butterfield Overland Trail, the Santa Ana River Trail Plan, and other off-road trails.
- **Parks and Recreation.** This component would replace the original parks and recreation master plan that dates back to the 1990s.
- **Open Space for Recreation.** This would include the open space resources acquired in past years (e.g., Fresno Canyon) and those that surround the City.
- **Open Space for Preservation.** Except for the Prado Basin Master Plan and Riverside County MSHCP, there are no open space protection plans in Corona.

3.4.2 Existing Conditions

This section provides an inventory and evaluation of open space areas, natural trails, parkland, recreational programs, and libraries and educational resources available to residents of Corona and surrounding communities.

Natural Areas

Corona's location near the convergence of three counties allows residents access to natural open space areas, including mountains, hillsides, canyons, and preserves. Significant open space areas are briefly described below.

Prado Dam Basin

The Prado Dam Basin is at the confluence of the Santa Ana River, Cucamonga Creek, Chino Creek, and Temescal Wash. The US Army Corps of Engineers administers the land for recreation purposes, riparian habitat, and flood control facilities. Recreational activities include sightseeing, birdwatching, hiking, walking, and bicycling. The Prado Basin also connects to the Santa Ana River Wildlife Area in Riverside County, which offers additional recreational opportunities, such as hiking and equestrian trails.



Chino Hills State Park

Chino Hills State Park is a 14,100-acre preserve that stretches from San Bernardino County through parts of Orange County. While not directly in Corona, it is adjacent to the City and provides recreational opportunities. Chino Hills State Park has over 90 miles of trails for hiking, biking, and equestrian uses, and facilities for camping. The park is also a key wildlife corridor extending south from the Puente Hills along Corona's western border to the Cleveland National Forest.

Cleveland National Forest

The Cleveland National Forest is the southernmost National Forest in California, located on the western front of the City of Corona's sphere of influence. Consisting of 460,000 acres, the forest offers a variety of terrains and recreational opportunities. The Trabuco Ranger District operates out of the Corona office at 1147 E. Sixth Street. The Trabuco District manages approximately 139,000 acres in Orange and Riverside counties and offers a multitude of trails for hiking, biking, horseback riding, and remote camping for those seeking an alternative to developed campgrounds.

Local Natural Areas

Corona benefits from several local natural areas in the community. The Sage Open Space and Fresno Canyon offer 67 acres of open space for walking, hiking, and bicycling. Master plans have not been created for these local open space assets. The City also encompasses washes and channels that offer potential connections to parks and opportunities for hiking, biking, and pedestrian activity. These include Wardlow Wash, Oak Street Channel, Main Street Channel, and Temescal Wash. The Santa Ana River in the Prado Dam area also connects to a regional trail system.



Sage Open Space Area

In addition to these established open space areas, Corona is part of the Riverside County Multi-Species Habitat Conservation Plan. As such, several areas (such as washes, canyons, or other open space areas) may be proposed for potential conservation and recreational use. Information about natural open space areas that are home to wildlife can be found in the biological resources section of this report.

Developed Parks

Corona has 35 public parks covering about 352 acres, exclusive of natural open space areas (Fresno Canyon, Sage Open Space, and other similar areas). This total includes the El Cerrito Sports Park in the City's SOI, because it is a joint use facility with Riverside County that serves Corona residents. The City's park system is developed with a specific classification scheme based on the intended use of a park, population served, and amenities. The types of parks in Corona (including golf courses) are shown below.

Mini Parks

Mini parks are the smallest parks and are generally less than two acres. They provide passive open space and buffering from adjacent urban land uses. Park uses include sitting areas, play structures, walking trails, landscaping, rest areas, vista points, picnic areas, etc. The service area is less than a quarter of a mile radius.

Neighborhood Parks

Neighborhood parks are generally between 5 and 20 acres and are intended to serve the recreational needs of a population of 5,000. Uses can include playing courts, playing fields, sitting areas, picnic areas, restrooms, walking trails, landscaping, and parking. The service area is up to a one-half-mile radius. The City's 24 neighborhood parks encompass approximately 138 acres of parkland.



Border Neighborhood Park

Community Parks

Community parks are 20 to 40 acres and are intended to serve the recreational needs of several neighborhoods. They can include passive and active recreation facilities or structured facilities (e.g., pools, gymnasiums, or community centers). Community parks

are intended to have a service area of 1 to 1 1/2 mile radius. The City's six community parks (including El Cerrito Sports Park) encompass approximately 93 acres.

Major Parks

Major (regional) parks are approximately 40 acres or larger (but may be less) and are intended to serve the broadest range of active and passive recreational needs as well as indoor and outdoor recreational needs citywide or regionally. Uses can include auditoriums, gymnasiums, recreation centers, organized sports fields, and playing courts. Currently, the City of Corona has two major parks that total approximately 93 acres: Butterfield Park and Santana Regional Park.



Citrus Community Park

Special Use Parks

Special use parks include parks and other city facilities that accommodate specialized recreational needs (such as a dog park or sports field) or reflect important community values such as a nature center or a heritage museum. Because of the specialized services, there is no established service area associated with a special use park. Examples of special use parks are Heritage Park and City Park (which contains a pool).

Private Parks

Although not a park type listed in the general plan, Corona has a few private parks in gated communities or neighborhoods, where the residents or HOA pay for park maintenance. There are no specific standards in acreage and amenities for private parks; the facility is determined pursuant to development standards or a development agreement approved by the City and respective developer.

Golf Courses

Golfing is a popular activity, both recreationally and professionally, in the community. Corona does not have a public golf course maintained by the City. However, Corona has five private or fee-for-service golf courses. These golf courses offer views of the surrounding topography and provide additional recreational amenities. Eighteen-hole golf courses in the City of Corona and SOI include:

- Green River Golf Club, an 18-hole golf course in northern Corona
- Cresta Verde Golf Course, an 18-hole golf course in northern Corona
- Eagle Glen Golf Club, an 18-hole golf course in southern Corona
- Dos Lagos Golf Course, an 18-hole golf course in southern Corona
- Champions Club, an 18-hole golf course at the Retreat in Temescal Valley
- Glen Ivy Golf Club, an 18-hole course in Temescal Valley



Eagle Glen Golf Course

The Corona General Plan has an established land use designation—Open Space Recreation—to accommodate golf courses. As of 2017, golf courses cover 922 acres in Corona and 516 acres in the City's SOI. These figures do not count the closed golf course in Coronita, which now serves as natural open space. Since golf facilities are not maintained by the City of Corona and are private fee-based facilities, the golf courses are not counted toward satisfying the City's Quimby requirement of three acres of parkland per 1,000 residents.

Figure 3-10, Park and Recreational Facilities, shows the location of City facilities.

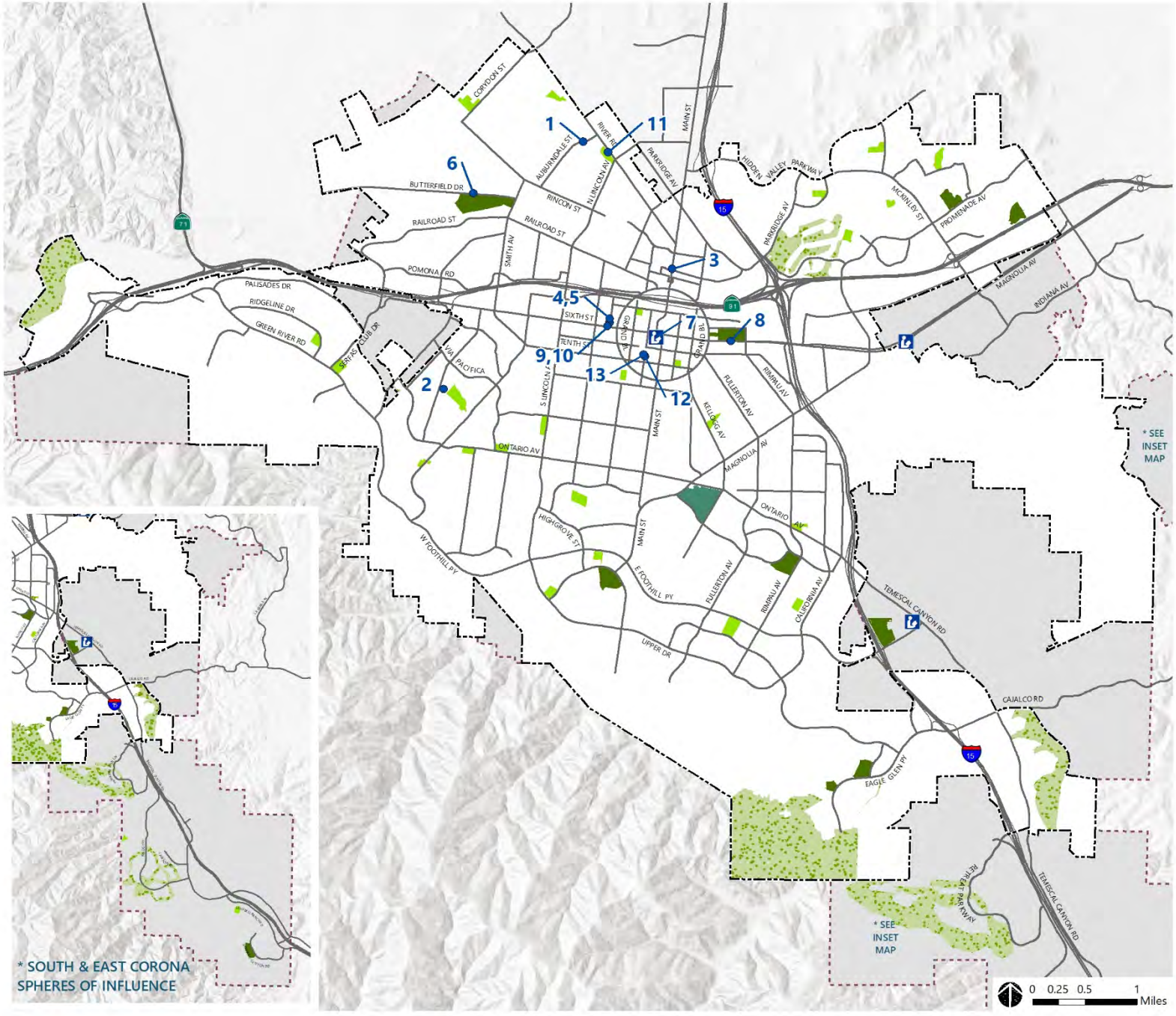


Figure 3-10
Park & Recreation Facilities

Legend

- Mini Park
- Neighborhood Park
- Community Park
- Major Park
- GolfCourses
- City Boundary
- Sphere of Influence Areas
- Library
- Recreational Facilities
  - 1 - Auburndale Recreation Center
  - 2 - Brentwood Park Center
  - 3 - Circle City Center
  - 4 - City Hall Child Care Center
  - 5 - Civic Center Gym
  - 6 - Corona Municipal Airport
  - 7 - Corona Public Library
  - 8 - Fiesta Bandshell
  - 9 - Historic Civic Center Community Room
  - 10 - Historic Civic Center Theater
  - 11 - River Road Community Center
  - 12 - Senior Center
  - 13 - Victoria Park Community Center

Source:
City of Corona, 2019

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Assessment of Park Acreage

The adequacy of parks is often based on availability, access, and adequacy. This technical update will change Corona's parkland requirement to 3 acres of parkland per 1,000 residents. This change would be consistent with Ordinance 2845 (adopted 2006), which requires developers to provide 3 acres of parkland for every 1,000 new residents housed by the project in new development projects.[4] Mini parks are not included in the overall calculation of total acreage or Quimby requirements.

Table 3-12, Public Developed Park Acreage Analysis, summarizes the availability of parkland in the City compared to Corona General Plan policy. Using the ratio of 3 acres of parkland per 1,000 residents, the General Plan would require 496.1 acres of parks, split between neighborhood/regional and community parks. As of 2017, the City needs 144.4 acres to meet the General Plan standard of 3 acres per 1,000 people. The City currently has 2.1 acres of parkland per 1,000 people—below the Quimby requirement.

Table 3-12 Public Developed Park Acreage Analysis

		Park Classification		
Criteria	**Total**	**Neighborhood**	**Major**	**Community**
Existing Parks	32[1]	24	2	6
Park Acres	351.7	138.2	93.4	120.1
Current Acres/1,000 people	2.1	0.83	0.56	0.72
GP Standard/1,000 people	3.0	50%		50%
Required Acres per General Plan[3]	496.1	248		248
Park Acreage Needed	*144.4*	*16.5*		*127.9*

Source: City of Corona, 2018
Notes:
1. Corona has a total of 35 parks, including the El Cerrito Sports Facility as it is a joint use facility with the County that serves Corona residents. Three of the parks are mini parks, which are not included.
2. Private parks, mini parks, special use facilities, golf courses, and natural areas are not included in this acreage needs assessment because they have no acreage standards in the general plan.
3. Acreage assessment based on a population of 165,366 for consistency with DEIR baseline.

Although parks are generally well distributed, there is a deficit in acreage. As the City approaches buildout, there will be limited opportunities for new parkland, particularly in neighborhoods that are already built out. To meet the General Plan standard for parkland acreage, it will become increasingly important to pursue alternative ways to add parkland acreage, such as joint use of school sites.

[4] CMC, Chapter 16.35, Park Dedication and In-Lieu Fees, contains the City's Quimby Ordinance, which requires developers to provide 3 acres of parks for every 1,000 residents served by new development. This can be satisfied through dedicated public land, developed park sites, and other eligible improvements, in-lieu fees, or private parks (at the City's sole discretion).

Trails (Built and Natural)

The area's hillsides, riverbeds, washes, canyons, and other open spaces have intrinsic environmental value as well as recreational benefits for the community at large, but especially for hikers, cyclists, equestrians, and other outdoor enthusiasts. Much of the City features undulating topography and is adjacent to expansive protected wildlands.

- **Cleveland National Forest.** The 460,000-acre forest extends along the border of Riverside and Orange Counties in the Santa Ana Mountains. The area adjacent to Corona is known for a variety of hiking trails with diverse terrain and incredible vistas. Several popular hiking trails through the forest originate in the City. The land is managed by the U.S. Forest Service, an agency of the federal government.
- **Lake Mathews Estelle Mountain Reserve.** Lake Mathews, located east of Corona, is surrounded by 13,000 acres of conserved lands, including hiking trails and habitat for threatened and endangered species. It is jointly managed by the Metropolitan Water District, California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and the Riverside County Habitat Conservation Agency.
- **Chino Hills State Park.** Located northwest of Corona, the park includes over 14,000 acres of open space and approximately 90 miles trails in the foothills of the Santa Ana Mountains. In addition to hiking trails, visitors can enjoy the Native Plant Trail, Interpretive Trail, Discovery Center, picnic areas, and campsites.

Corona Trails Master Inventory

In 2018, the City launched the Corona Trails Master Inventory in response to community interest in trails and to implement direction from the General Plan to establish and maintain a comprehensive system of walking and biking paths and trails. An extensive public outreach effort ensued to obtain information on trail use, lesser known trail locations, and the community's vision for trails. The inventory includes trails that are being used or have been used in the past by the public to access destinations within the City and to adjacent open spaces. It proposes four classifications of trails:

- **Urban trails**—multi-purpose, hard surface, pedestrian and cycling routes that physically connect residential areas, parks, schools, commercial nodes, and employment centers.
- **Historic Trails**—scenic walkways that traverse older developed residential neighborhoods and downtown areas to promote public and visitor appreciation of local, regional or national heritage.
- **Rural Trails**—multi-purpose pedestrian/cycling and equestrian routes. Trail surfaces are typically unpaved. These trails link various areas of a community and sometimes provide connections with nearby communities.
- **Bicycle Trails**—routes located adjacent to, or on the outer edge of roadways. They are often integrated with Urban and Rural Trails. They can also serve as important cycling commuter routes to areas of employment, shopping, schools, and parks.

The City is expanding upon the Trails Master Inventory and is beginning to prepare a Trails Master Plan that is expected to be completed in 2020.



Tin Mine Canyon Trail in the Cleveland National Forest is an example of a rural trail.

Maintaining and increasing trail resources in the future in and around Corona will be a multijurisdictional effort, requiring coordination with agencies such as the County of Riverside, County of Orange, California State Parks, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, and U.S. Forest Service among others. There are several trail plans and projects that include land within or adjacent to Corona and its SOI.

- **Southern Emigrant Trail and Butterfield Overland Trail Project.** This project encompasses a historic trail. In 2013, several agencies collaborated to plan to bring this historic route back to life. Most of the proposed trail is generally consistent with its historical alignment. The trail includes 66.8 miles crossing Corona, Murrieta, Lake Elsinore, and Temecula, and unincorporated areas of Riverside County.
- **Riverside County Comprehensive Trails Plan.** This plan was approved in 2018 to guide management and development of new trails in the County, including those that link to Corona and its SOI. Specifically, the plan calls for a regional trail in the Temescal Canyon, south of Corona. It also includes the Santa Ana River Trail to the north and the Southern Emigrant Trail/Butterfield Overland Trail to the south.
- **Santa Ana River Trail (SART) Master Plan.** The SART is a multi-use trail that will span 100 miles in the counties of San Bernardino, Riverside, and Orange. The portion in Riverside County crosses Corona, Riverside, Norco, Eastvale and Jurupa Valley. These cities coordinate trails planning with the Riverside County Regional Park and Open Space District, Riverside County Transportation Commission.
- **Prado Regional Park Master Plan.** The Prado Regional Park Master Plan is an ongoing planning effort to develop a vision for the park for the next 20 years. The planning process includes the development of a preferred alternative that enhances recreation, special events, trails, and other opportunities.

Recreation, Libraries, and Education

The City of Corona has a wide range of facilities where community activities are held. These include community centers, gymnasiums, senior centers, and other facilities.

Recreational Facilities

The Circle City Center is one of the main community centers, located at 365 North Main. The facility features a gymnasium/event hall, a fitness room, a game room, classrooms and meeting rooms, a banquet room, and a catering kitchen.



The Senior Center offers an opportunity for adults 50 years of age and older to develop an extended family through a wide range of health and educational programs, human services, recreational and social activities, and special events throughout the year.



Recreational Programs

The Library and Recreational Services Department is charged with providing community services and recreational and leisure time opportunities. This includes adult and youth sports, special events, childcare, after-school programs, summer programs, aquatic programs, community classes, community involvement programs, senior recreation programs, and reservations for facilities.

Table 3-13, Corona Recreation Programs, provides an abbreviated list of the types of recreation programs and services offered in Corona.

Table 3-13 Corona Recreational Programs

Program Types	General Description
Kids Club	Corona offers after-school kids' activities at 9 public schools for grades kindergarten through sixth. Activities include group games and crafts. A teen zone is also offered at Cesar Chavez Academy for seventh and eighth graders.
Aquatics	This includes swimming lessons, adaptive swim lessons, junior lifeguard program, and recreational swim. Lessons are available for children 6 months and older to adults. Private clubs also offer swimming lessons and activities.
Youth Sports	The City offers basketball, indoor soccer/futbol, and flag football for youth ages 3 to 14 years. Private organizations offer baseball, football, softball, soccer, swimming, track, tennis, basketball, and other active sports for youth.
Adults	City adult sports include Adult Basketball and Adult Softball Leagues. Other activities such as tennis, martial arts, golfing, ballet/dance, and calisthenics are offered through the City's contract classes program. Passive recreation programs are also offered for adults.
Senior Activities	City senior activities offered include a range of passive and active recreation, including lectures, legal services, special events, travel programs, and movie matinees. Exercise classes are offered in yoga, dance, and many other activities held primarily at the senior center.
Adaptive Recreation	The City offers a tailored menu of social, recreational, educational, and creative activities for residents with disabilities. Activities include special events, yoga, and exercise among others. The City also offers its weekly Out-of-Bounds program for disabled residents.

Source: City of Corona, 2017

For a more complete inventory program of recreational activities, the City regularly publishes a recreational brochure that provides information on City-sponsored activities and programs. This brochure is available online at the City's website at: https://www.coronaca.gov/government/departments/recreation-services.

Libraries

The Corona Public Library is a 62,000-square-foot facility at 605 S. Main Street. The library offers a variety of services including children, family, and adult literacy, homework assistance and study rooms, story times for a variety of ages and in multiple languages, afterschool activities, online high school, and adaptive programs. The library collection includes books, DVDs, CDs, audiobooks, book club kits, a library of things, children's health and wellness kits, e-books, magazines, and newspapers. Additionally, the library has numerous computers with internet access and educational software for patrons, and a homework center for students. Teens on Main is a space specifically designed for 6th-12th graders to read, study, and socialize. The Veterans Resource Center connects veterans with employment, access to health and other benefits, housing, and a variety of veteran's services. The Corona Public Library Gallery hosts monthly shows featuring the works of local and regional artists of all ages and abilities. MakerExchange is CPL's makerspace, a collaborative work space using high tech to no tech tools for making, learning, exploring and sharing ideas. The W. D. Addison Heritage Room covers all periods of local history and includes photographs, rare books, newspapers, manuscripts, oral histories, artifacts, and other items for public review. The City offers a wide range of programs and services for all ages and abilities.



Corona Public Library

The Riverside County Library system is responsible for providing library services to the unincorporated communities in Corona's SOI. Home Gardens is served from an approximately 20,000 square foot library facility located at 3785 S. Neece Street. El Cerrito is served by another 10,000 square foot library facility at 7581 Rudell Road. Temescal Valley is served by the El Cerrito branch library. Both libraries contain total collections of approximately 25,000 items, which includes book, videos, CDs, CDROM software, audiocassettes, books on tape, and pamphlets. Coronita does not have a local library but is located within a short drive to the Corona or Norco main libraries.

The American Library Association does not issue standards for facility size and circulation, but rather supports local benchmarks. According to the California Library Association, FY2015 surveys show that the median library was 0.45 square feet per capita in size. Corona provides 0.38 square feet of space per capita. Benchmarked against all city and county libraries statewide, the City would need to acquire 12,500 square feet of floor area to reach the median benchmark. If Corona is benchmarked to Riverside County standards of 0.5 square feet per capita, an additional 20,000 square feet of space is needed. These figures are equivalent to two branch outlet facilities.

Schools and Education

The Corona-Norco Unified School District serves most adults and youth in Corona. This includes traditional K-12 education, alternative education, and adult education. In all, 34 schools in the community serve more than 34,000 students. In addition to public schools, Corona is home to 14 private schools—Montessori schools, alternative education, and schools affiliated with religious denominations. Table 3-14, Primary and Secondary Schools in Corona, summarizes the number and type of public schools that are part of Corona-Norco USD as well as private schools that serve Corona.

Table 3-14 Primary and Secondary Schools in Corona

Corona Schools	Type	Number of Schools	Student Enrollment
Elementary	Public	22	19,136
Intermediate /Junior High	Public	5	4,682
High School	Public	3	9,479
Continuation High School	Public	3	815
Adult Education	Public	1	118
Religious Schools	Private	14	1,565
Total		48	35,795

Source: California Department of Education, 2017.
Note: The Promenade Elementary School serves eastern Corona and is the only school in the City not in the CNUSD but in the Alvord Unified School District.

Corona-Norco USD has benefitted from two bonds measures passed over the past decade. In 2006, voters in the Corona-Norco USD approved Measure U, a $250 million general obligation bond for the construction, reconstruction, rehabilitation, or replacement of school facilities. In 2014, Riverside County voters approved Measure GG, authorizing issuance of a general obligation bond of $396 million. This bond is being used for Corona-Norco USD schools in Corona's unincorporated areas (Home Gardens, Temescal Valley, Coronita, and El Cerrito), Norco, and Eastvale.

Corona residents also have access to two community colleges in Norco and Riverside. The City of Riverside is also home to a University of California campus and other four-year colleges. Two satellite campuses for four-year colleges (Point Loma Nazarene and La Sierra University) are in Corona as are trade schools in medical services.

Arts and Culture

The City of Corona is home to a long-standing and diverse arts community. Celebrating local history, arts, and culture is integral to preserving a high quality of life in Corona. In Corona, the varied artistic expressions by the community is a matter of civic pride. These valued characteristics contribute to a strong sense of civic place, enhance the community's attractiveness and uniqueness, and foster lifelong learning. As such, the City seeks to encourage a variety of opportunities for arts and culture, including history, throughout the community when feasible.

Corona offers a range of enriching art, theatre, and music programs through the City's Recreation Services division, nonprofits, schools, and private enterprises. Many local organizations collaborate through the Arts Alive Cultural Arts Council of Corona. The Council's purpose is to increase awareness and appreciation of arts and cultural activities in the area. Corona's commitment to the arts is nationally recognized. In 2018, the John F. Kennedy Center for the Performing Arts selected Corona to be the first site for a new national arts initiative called Arts Across America. Nationally renowned musicians visited Corona to kick off this national initiative.

Additional organizations are active in promoting the arts. Since 1963, the Corona Art Association has encouraged and developed the appreciation, study, and practice of visual arts through art shows and classes. The Arts Colony has a gallery and artist-in-residence studios, and offers classes for drawing, painting, glassblowing, woodworking, and art history. The Circle City Chorale promotes music appreciation and arts education. Corona Symphony Orchestra is a nonprofit musical performance organization that supports the Corona Symphony Conservatory. Christian Arts & Theatre offers an after-school theater/arts education program for youth and hosts children and adult theater performances year-round. Off Broadway Corona Theater is a non-profit theater company that offers quality musical theater productions and voice and acting classes.



Christian Arts Theatre production, Corona California

3.5 LAW ENFORCEMENT

This section describes the regulatory framework for police services in Corona, and describes and evaluates the various police protection services provided. Fire services are addressed in Chapter 5, following a discussion of hazards.

3.5.1 Regulatory Framework

Unlike fire service operations, police protection and prevention services in Corona in is regulated primarily by local ordinance and department priorities. The primary laws and regulations are briefly described below.

Corona 2004 General Plan

California law does not mandate the preparation of an element that specifically addresses police and fire services. Under Section 65303 of the Government Code, the general plan may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the city. Because safety is a key principal in the General Plan vision, Corona's general plan contains an optional element for police and fire services. When adopted, the elective element has the same legal weight as the mandatory elements.

The overarching objective of this element is stated below

The City of Corona is committed to providing effective and caring public safety services to the resident, business, and visitor population that effectively addresses quality of life issues, fear of crime and crime reduction. The police and fire departments will further a genuine sense of security for residents, businesses, and visitors through our quick response to problems and their ability to resolve difficult issues. The Police and Fire departments will honor the community's diversity by serving all people fairly and equitably. The departments will effectively train personnel and suitably equip them to meet the many needs of the city as the city grows and reshapes itself.

The General Plan Police and Fire Element contains six primary goals that listed below. Additional fire related goals are provided in the General Plan Safety Element.

- **Goal 1.** Ensure that there is an adequate service level of law enforcement provided for all residents, visitors, and businesses throughout the City of Corona.
- **Goal 2.** Ensure that there is an adequate service level of fire protection provided for all residents, visitors, and businesses throughout the City of Corona.
- **Goal 3.** Ensure that public safety services are provided in a manner that reflects and is sensitive to the characteristics and needs of resident population, visitors, and business community.
- **Goal 4.** Require that all existing and new development/redevelopment address provision of police and fire protection in an active and preventative manner.
- **Goal 5.** Create land use and development configuration and site design standards to minimize crime.
- **Goal 6.** Address fire prevention measures on open space land to reduce the risk wildland fires.

Police Strategic Plan

The City of Corona has prepared a strategic plan since 2012 to guide its operations. While some of the original goals have been long removed due to completion, other goals remain the same while still others are included to address with emerging issues. The current 2017–2019 edition is the fifth update to the original 2012 strategic plan. The Police Department Strategic Plan contains the following eleven goals:

- Goal 1: Prevent and Suppress Crime
- Goal 2: Maintain Adequate Staffing Ratios
- Goal 3: Maintain an Emergency Response Time within Five-Minutes
- Goal 4: Radio Interoperability – More Robust System
- Goal 5: Maintain and Enhance Partnerships with the Community
- Goal 6: Implement Department Wide "Succession and Success" Plan and Mentor
- Goal 7: Enhance In-House Technology and Equipment
- Goal 8: Enhance and Expand City-Wide Camera Systems
- Goal 9: Animal Services & Enforcement
- Goal 10: Fiscal Efficiency
- Goal 11: Ongoing Department Review of Practices, Procedures, and Policies

Project Safety Net

Slightly more than two-thirds of students in the Corona-Norco USD perceive their schools are safe or very safe—significantly better than the county or state. While the Corona-Norco USD fares better than most schools, school safety remains a concern according to the Healthy Kids Survey. The Corona-Norco USD has made it a priority to ensure a safe school environment and is actively working with Corona PD. The CNUSD has adopted a School Safety Plan, which has received state and national awards for its efforts.[5] A sample of current programs includes:

- **School district policy**. CNUSD has adopted a zero-tolerance policy on school bullying, which can be found at http://www.cnusd.k12.ca.us/Page/20835.
- **Safety personnel**. School resource officers and security attendants are assigned to each school to address a range of safety concerns.
- **Suicide prevention and crisis intervention teams**. CNUSD assigns trained staff to all schools to identify and assist students in need.
- **School safety plan**. CNUSD maintains a comprehensive school safety plan that complies with the California Education Code, Section 35294.2.
- **Bicycle/pedestrian safety**. The CNUSD has partnered with Corona PD, Riverside County Public Health Department, and others to publish a safety plan.

[5] CNUSD's school safety plan can be accessed at: http://www.cnusd.k12.ca.us/flipbook/safetynet/

3.5.2 Existing Conditions

This section contains a discussion of the various police operations and services provided by the Corona Police Department. Also included is a snapshot of crime statistics in the community and overall safety environment.

Overview

The Corona Police Department (CPD) is a full-service organization that provides 24-7 services. Operating out of its headquarters on Public Safety Way, the CPD provides a diversified array of services for Corona residents and business. The department is supported by civilian staff, a Communications Center, Animal Services and Enforcement, and non-sworn staff that handle non in-progress calls and jail bookings.

Some of the key functions of the CPD are summarized below.

- **Field Services.** This division includes the City's patrol services, aviation unit (through a contract with Riverside Police Department), special response team, K9, explorers, HOPE program (Homeless Outreach and Psychological Evaluation), and mounted enforcement unit among other programs.
- **School Services.** Due to the large student population in Corona high schools, there is an ever-present need for prevention and intervention by school officials, the community, and law enforcement. The City jointly funds a school resource at each high school to work with school personnel, students, and families.
- **Traffic Control**. The traffic bureau facilitates the safe and orderly movement of traffic through patrol, law enforcement, education, and investigations. This includes enforcement of traffic laws, impounds of vehicles, enforcing parking regulations, providing child safety seat installations, and other vehicle-related issues.
- **Investigation Services.** This division includes the various functions involved in investigating crimes. These include crimes against persons, property crimes, vice-narcotics, computer crimes, gang control, traffic accidents, and a variety of other incidents requiring investigation and followup.
- **Aviation Services (contract)** Corona PD contracts with Riverside PD to provide helicopter patrols (Air One patrols) to the City of Corona. Air One responds to calls for service in both Riverside and Corona based on the type and priority, such as In-progress crimes, vehicle pursuits, area checks, and missing persons.
- **Support Services.** This includes a wide variety of administration functions including crime prevention, dispatch services, fleet management, emergency management, records, training and personnel, animal services, and other functions necessary to support the overall department.

In addition to the above department functions, CPD supports the work of various nonprofits. The Corona Police Community Partnership (CPCP) is a nonprofit organization that works to enhance the cooperation between the police and citizens of Corona. CPCP Board of Directors meet once a month to address issues of concern.

Law Enforcement Facilities

The Corona Police Department operates out of its headquarters local at Public Safety Way and several branch offices located throughout its service area. Law enforcement services for Coronita, Home Gardens, and El Cerrito are provided through the Riverside County Sheriff Department, through the Jurupa Valley Station. The Lake Elsinore Station is responsible for serving Temescal Valley, including within Corona's SOI.



Corona Police Department Headquarters

The Corona Police Department also provides other police facilities that are intended to serve designated four geographic districts within Corona or specialized functions that serve all of Corona. These law enforcement facilities are:

- Special Enforcement Unit. Traffic Services is located at police headquarters and the Family Services is located at City Hall.
- Zone 2 office. Located at 340 N. McKinley, this is a satellite office for field officers and volunteers
- A Narcotics/vice investigative office that is included within City limits and is located off site from the main police station.
- Animal Services and Enforcement. Located at 1330 Magnolia Avenue, this unit is responsible for addressing all community issues involving animals.

Corona's four patrol zones are shown in Figure 3-11, *Police and Sheriff Patrol Zones*.

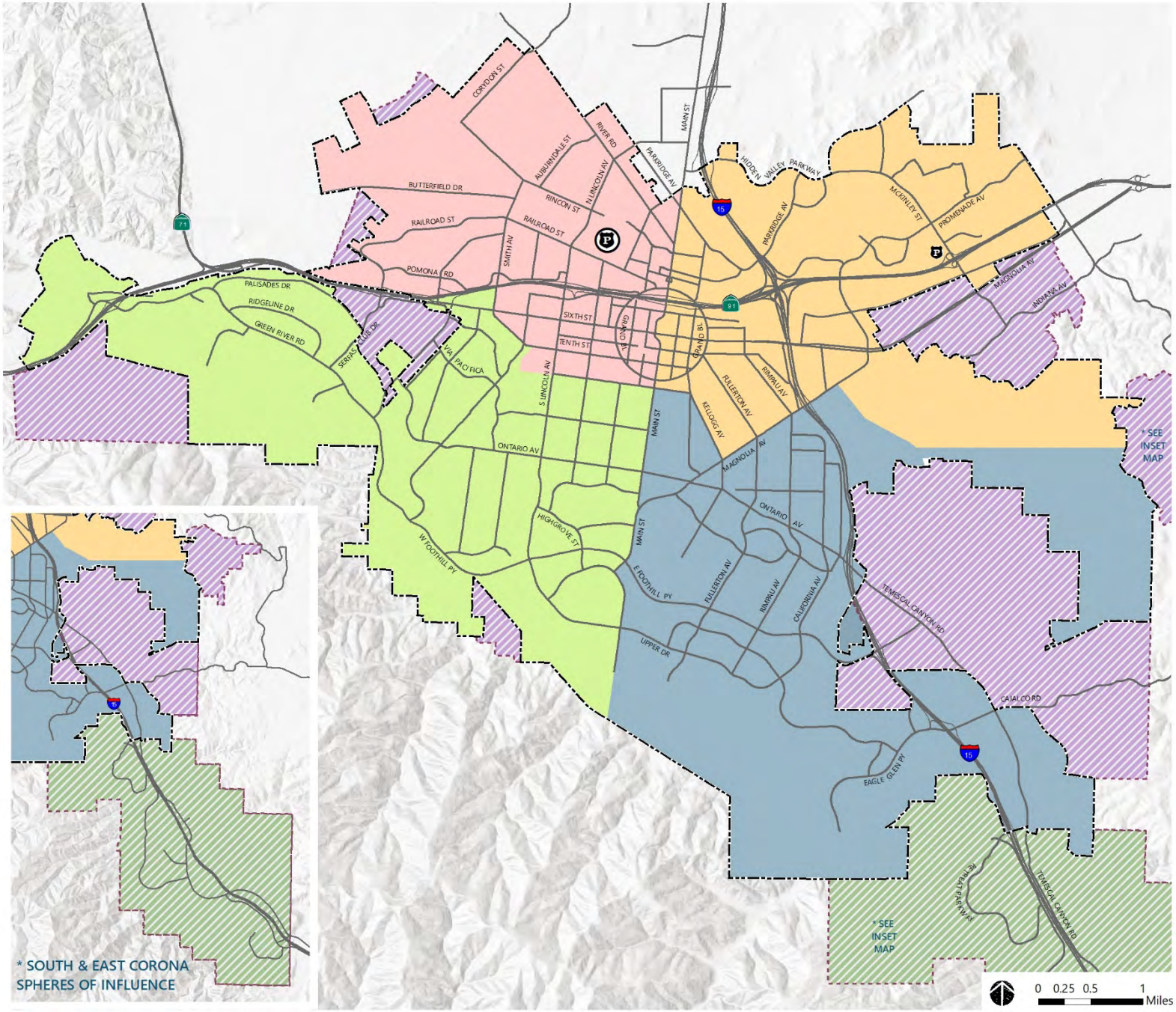


Figure 3-11
Police/ Sheriff Patrol Zones

Legend

- Main Police Station
- Sub-Station

Corona Police Patrol Zones

- Zone 1
- Zone 2
- Zone 3
- Zone 4

County Sheriff Patrol Zones

- Jarupa Valley Station
- Lake Elsinore Station
- City Boundary
- Sphere of Influence Areas

Notes:
The Coronita, El Cerrito, Home Gardens areas are serviced by the Jurupa Valley Sheriff's Office. Temescal Valley area is serviced by the Lake Elsinore Sheriff Station.

Source:
City of Corona, 2017
Riverside County, 2017

CORONA General Plan

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Corona Crime and Response Statistics

Table 3-15 shows historical performance indicators for the Corona Police Department. Included are a variety of workload measures, number of crimes committed in Corona, and staffing and resources to address workload. Department statistics were derived from the Police Department's Strategic Plans as updated by City staff. Most workload measures are relatively stable, though violent crime has varied up and own since 2012. Property crimes per 100,000 residents have trended downward. Department resources have remained generally stable over time with response times improving over time.

Table 3-15 Corona Police Department Measures, 2012-2017

	Calendar Year					
Service Indicators	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Service Demand						
Citizen Calls	66,295	66,393	68,697	73,638	72,693	69,538
Officer Initiated	33,535	36,053	40,127	36,456	37,983	36,795
Emergency Calls	4,414	4,283	4,315	4,232	4,398	4,393
Crimes in Corona						
Violent Crimes	210	162	170	213	185	223
Rate per 100,000 people	135	102	106	130	113	134
Property Crimes	4,143	3,440	3,441	3,727	3,705	3,291
Rate per 100,000 people	2,655	2,164	2,130	2,290	2,268	1,973
Resources						
Sworn Officers	153	157	159	162	162	162
Officers-1,000 Residents	0.99	1.0	1.0	1.1	0.97	0.96
Officer Availability	35%	34%	33%	33%	34%	33%
Civilian Staff	61.5	62	65	66	69	69
Response Time (Priority 1) In minutes and seconds	5:13	5:11	5:15	5:28	4: 59	4:55
General Fund Exp. ($mill.)	$38.9	$38.8	$41.2	$43.2	$46.5	
Annual Budget ($mill.)	$39.5	$40.2	$42.5	$44.2	$47.2	

Source: City of Corona, Police Department, 2018

Law enforcement services for the unincorporated area within Corona's SOI are provided by Riverside County Sheriff. Patrol services in El Cerrito, Coronita, and Home Gardens are provided out of the County's Jurupa Valley Station. Patrols for Temescal Valley are provided out of the Lake Elsinore Sheriff Station. In addition to the Sheriff, the California Highway Patrol (CHP) is responsible for traffic enforcement in unincorporated areas. Mutual aid agreements are in place for jurisdictions to assist one another as requested.

Standards of Performance

While public safety has both objective and subjective measures that can be measured and evaluated in many different ways, the CPD uses the following objective metrics to evaluate the effectiveness of the services provided to the community.

Staffing Levels

Over the years, several methods have been used to quantify the sufficient police staffing to provide adequate law enforcement services and respond in an acceptable time to emergency (Priority 1) and other calls for service. Some factors could be response times, officer availability, crime rates, community concerns, patrol and or community configurations, and the economy. The use of an officers-per-thousand ratio has been a standard for years and is still referenced by the Federal Bureau of Investigations and State and Federal Departments of Justice. The City also utilizes this method and strives to maintain a ratio of one officer-per-thousand residents.

Response Times

Another important method to assess performance is tracking response times to residents' calls for service. There have been numerous surveys for public expectations of what they consider an acceptable police response time. The majority of these have indicated that the public wants an emergency police response within five minutes or less. The general public is willing to wait longer for routine (non-life threatening) responses and response for report purposes only. The Police Department prioritizes its calls for service as Priority 1 (life-threatening), Priority 2 (urgent but non-life-threatening), Priority 3 (routine reports), and Priority 4 (generally officer-initiated activity, such as routine backups, traffic violations, and other miscellaneous activities).

Roadway Safety

Corona averaged approximately 1,800 vehicle collisions from 2014 to 2017. There are no comparative statistics countywide that are reliable enough to rank Corona against its peer cities because cities may use different companies to report the data. During that period of time, Corona also averaged approximately 31 bicycle-vehicle accidents, 47 pedestrian-vehicle collisions, and approximately 1 vehicle-train collision. While the number of accidents seemed to increase from 2014 to 2016, the accidents have moderated in number during 2017 down to levels before the SR-91 was improved. The main exceptions are that both bicycle and pedestrian collisions gradually increased.

Crime Levels

A third measure of performance is the frequency and severity of crime. Compared to its peer cities in the county, Corona is consistently ranked as one of the safest communities in Riverside County. In 2016, Corona's violent crime and property crime rates ranked the 3rd and 9th lowest, respectively, in Riverside County. Moreover, domestic violence calls are among the lowest in the County. While violent crime has increased in 2017, Corona residents still enjoy a safer community than other peer cities. Corona's overall low crime rate has been attributed to proactive crime suppression and prevention efforts, including its ongoing community policing philosophy.

3.6 IMPLICATIONS FOR THE GENERAL PLAN

Infrastructure, public facilities, and services consist of the places and programs that support the basic needs of people and business and create a viable, sustainable, and cohesive community. For residents and businesses, these services are often the most tangible indicators of quality of life in Corona and the products of local taxes. Chapter 3 contains an overview of several key infrastructure systems, public facilities, and public services in Corona that support residents, businesses, and the community.

3.6.1 Issues for Consideration

» **Transportation.** Corona has a highly diversified transportation system that is designed to accommodate multiple modes of transportation—be it vehicles, trucks, rail, transit, bicycle, and walking. The current system works efficiently; only a relatively few street segments and intersections exceed a level of service D. Exceptions include the historic core. The City has an extensive network of bicycle and pedestrian routes. Ample transit opportunities are available in the City, and multiple opportunities are available for workers seeking to commute. Metrolink also provides rail access to major employment centers in the region.

  Forty-six percent of residents drive to Orange County and Los Angeles County to work. More than one in five commuters travels more than one hour to other jurisdictions. Congestion is heavy along the SR-91 and I-15 several times of the day and evening. RCTC's improvements to both freeways have helped ease congestion, but because both freeways transect Corona, the city experiences cut-through traffic from non-Corona residents on a typical weekday during peak commute hours. Growth in the Inland Empire and resulting freeway congestion will continue to make cut through traffic a concern in Corona.

  Because the city is approaching buildout, the overall circulation has been established to support the growth within the city. Major capital improvements will still be needed to address localized issues (e.g., grade crossings, road extensions, bridges and crossings). However, the challenges of the future will involve optimizing the system and accommodating different modes of transportation. This includes nonmotorized transportation, different roadway service metrics, expanded transit, and automated vehicles, among others. Improving safety along the roadways will continue to be a concern for bicyclists and pedestrians and a potential area of improvement in the community.

» **Water, Sewer, and Drainage.** The City maintains a sophisticated system of water infrastructure—640 miles of water mains, 21 booster stations, 17 reservoirs to store water for daily and emergency use, and 22 water production wells that draw from the groundwater basins. In total, Corona's water system produces 40 million gallons per day in the summer and 20 million gallons per day during the winter months. Corona's sewer system covers approximately 368 miles of sewer mains, 13 sewer lift stations, and three waste reclamation facilities. Additional drainage and flooding infrastructure maintained by the City and county complements the system. Multiple service providers serve the City and SOI communities.

An industry trend has been to redefine the silos of water, sewer, and drainage into an integrated water resource management framework. In part due to persistent drought, state legislation, climate change, and water quality concerns, cities are reframing the industry. Corona continues to explore ways to manage its water resources, be it conservation, reclaimed water, conjunctive reuse, or groundwater management. The City's groundwater management plans, reclaimed water master plan, and blending/treatment plan—are all efforts to comply with a complex set of regulatory measures and address constituent demands related to water.

» **Parks and Recreation.** Corona maintains a highly developed system of 35 public parks covering 352 acres. This system is complemented by extensive open spaces in the City and SOI. Corona provides an expansive network of 70 miles of on-street bicycle routes with an additional 90 miles of bicycle routes planned. Moreover, plans exist for an off-road network of trails including access to the Cleveland National Forest, Skyline Drive, and along the Santa Ana River. A variety of public and private recreational facilities (including golf courses) complement the City-owned and -maintained parks and recreational facilities in Corona.

  Recreation and parks programs are structured to meet the recreational interests of Corona's residents. Adult and youth sports classes, childcare and after-school programs, summer programs, special events, and aquatic programs are offered through Recreation and Community Services. Cultural and recreational programs in Corona are conducted at many City facilities, including neighborhood parks, the Civic Center, the Senior Citizens Center, and local libraries. Additionally, City programs are conducted at local school facilities and businesses.

  The City has about two acres of public parkland per 1,000 residents, which is below the minimum Quimby standard. There are limited joint-use agreements in place to alleviate the shortage of parks and virtually no vacant land available for new parks in the city. Additionally, some of the City's established parks do not have a full complement of amenities due to shortage of funding needed to maintain the amenities. In addition to facilities, there is still a significant demand for recreational programs. Funding constraints will continue as the decreasing volume of new development reduces the amount of revenues for new parks.

» **Police and Community Safety.** Safety from crime is a high priority in Corona. Fortunately, Corona is one of the safest communities in Riverside County. Corona's violent crime rate ranks the 3rd lowest in the county, and is 75 percent below the state average. Property crime ranks the 9th lowest in the county. Perceptions of school safety are higher than many cities in Riverside County. While slightly more than two-thirds of students in the CNUSD perceive their schools as safe, school safety remains a concern and topic for improvement.

  Roadway safety remains a key issue in Corona. Over four years (2014–2017), the City averaged 31 bicycle accidents and 47 pedestrian accidents annually. Motor vehicle accidents averaged 1,800 annually. Countywide statistics are not available. Traffic accidents for bicyclists and pedestrians are concentrated within or near the Circle; this area accounts for the majority of bicycle and pedestrian collisions. Since an important goal is to improve the viability of the historic core, effort will need to focus on improving the safety of walking and bicycling in this area.

3.6.2 Opportunities

The City of Corona is a mature community with the majority of infrastructure in place. Opportunities in the city to build new roads, parks, water/sewer infrastructure, and other public facilities are increasingly limited. However, opportunities still exist to build supporting infrastructure in specific plans in the SOI. As Corona reaches buildout, the focus of future general plan efforts will likely shift to rehabilitating infrastructure and providing services to maintain quality of life.

The General Plan can further the above objectives as follows:

» **General Plan Vision.** The current general plan vision adequately covers the topics of circulation, parks and recreation, schools, and other community amenities. Safety with respect to law enforcement is also covered adequately. However, given the issues of integrated water management (water, sewer, reclaimed water, etc.) and its importance for Corona's future, this topic could also be briefly addressed under Vision principle 6, environmental resources.

» **General Plan Policies.** General plan policies are generally strong for supporting infrastructure, public facilities, and services. The exception would be for new regulatory requirements that have been adopted in recent years. The infrastructure and public services element could be expanded to address the following issues:

- Greater emphasis on articulating an integrated water resource management approach that is reflective of current City priorities.
- Emphasis on alternative metrics for traffic circulation (vehicle miles traveled) in addition to the traditional level of service metric.
- Greater focus on supporting the establishment of linkages for wildlife movement in regional plans (e.g., Prado Basin Master Plan).
- Formal recognition and stronger policy guidance for local scenic resources, vistas, and corridors to ensure their protection and enhancement.
- Policy guidance for reducing exposure to pollutants by sensitive receptors through buffers, distances, or prohibition/regulation of land uses.

» **General Plan Implementation**. The General Plan could also contain new programs for addressing infrastructure, public facilities, and services. Programs could be proposed or designed to:

- Develop an active transportation plan for bicycling and pedestrian modes of transportation (including safe routes to school) in Corona.
- Refine truck route to support implementation of the general plan and future specific plan development.
- Update the City's Park and Recreation Master Plan. Natural trails could also be included as a component of the plan.
- Update the Library Master Plan with an emphasis on including other forms of educational opportunities.
- Coordination of efforts with the Santa Ana River Conservancy to implement integrated trail planning along the Santa Ana River.

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4 Natural Resources

This chapter contains information on Corona's many significant natural resources. It addresses the regulatory framework for natural resources and existing conditions for land, water, visual, air, and biological resources in Corona and its SOI.

4.1 INTRODUCTION

Since the 1970s, California law has required general plans to include an open space and conservation element for the protection of natural resources that benefit the environment and communities. The City's general plan states that Corona will be a city in which natural habitats are maintained and available as educational and visual amenities for its citizens and for the sake of the natural environment. Consumable natural resources (e.g., water and mineral resources) will be maintained and used in a way that balances environmental impacts and community needs.

To provide a foundation for the General Plan update and the environmental setting for the Environmental Impact Report, this chapter explores natural resources in Corona. This chapter specifically addresses the following topics:

- Oil, gas, and mineral resources in the City and its SOI
- Soils, agricultural, and forestry resources in the City and its SOI. Sensitive species and forests are addressed in the biological resources section
- Visual resources, including open space lands (e.g., valleys, mountains, and ridgelines) that offer scenic views for the community
- Water resources, including the sustainable management of water basins, the quality of water resources, and areas required for water recharge
- Air resources, including the quality of air with respect to criteria pollutants and toxic air contaminants (See Chapter 6 for additional information)
- Biological resources, including open spaces that provide habitat (rivers, streams, wildlands, and associated preservation areas) for plant and wildlife species

Data and information for this chapter are compiled from a wide variety of state and federal agencies. State agencies include the California Department of Conservation, California Geological Survey, Department of Water Resources, Department of Forestry and Fire Protection, Southern California Air Quality Management District, and numerous resource agencies responsible for protecting biological resources.

The discussion contained herein relies on secondary research; no fieldwork was conducted. The 2004 General Plan Technical Report was also used as a baseline.[1]

[1] City of Corona, General Plan Technical Background Report, EIP Associates, 2004.

4.2 OIL, GAS, AND MINERAL RESOURCES

Mining has been a part of Corona's history since 1888, when the Temescal Rock Quarry was opened to furnish rock for streets in Los Angeles and nearby towns. Later decades saw oil and gas drilling in the Prado-Corona fields and Temescal Canyon. Looking forward, the conservation, extraction, and processing of mineral resources will be essential to meeting the needs of the region, the City's economy, and the industries that depend on them. This section examines these natural resources.

4.2.1 Regulatory Framework

The California Department of Conservation, the County (for unincorporated areas only), and the City are the primary agencies involved in the regulation of oil, gas, and mineral resources. Key state and local regulations follow.

Oil and Gas Resources

State Code and the Division of Oil, Gas, and Geothermal Resources

Public Resources Code (PRC) §§ 3000 et. seq. and Title 14, Division 2, Chapter 4 of the California Code of Regulations are the primary regulations affecting oil and gas production in California. The Division of Oil, Gas, and Geothermal Resources (DOGGR)—a subdivision of the Department of Conservation—oversees the drilling, operation, maintenance, and closing of oil, natural gas, and geothermal wells. DOGGR will issue permits for oil and gas drilling provided all discretionary permits are secured from local agencies. Cities have discretion to implement permitting procedures and regulations for oil and gas operations that are deemed appropriate by the locally elected body. Unlike surface mining law, state law does not prescribe specific regulations that jurisdictions must address in their general plan and municipal codes.

Corona Municipal Code

Title 14, Oil and Gas Production Regulations, of the Corona Municipal Code sets forth uniform limitations, safeguards, and controls for the drilling, production, processing, and storage of oil, gas, and other hydrocarbon substances. Title 14 requires adherence to the following prior to operation: 1) obtaining of a permit and associated fees and conditions; 2) appropriate bonds and insurance; 3) adherence to specified drilling and operational requirements; 4) adherence to safety, maintenance, and cleanup protocols; and 5) compliance with closure/abandonment regulations. Title 14 of the Municipal Code provides greater detail on existing regulations.

Chapter 17.60, Combining Oil Zone, was created for the northwestern part of Corona at the time when oil-producing uses were active or contemplated for the Prado-Corona Oil Field. Oil drilling will be permitted under certain limitations for the purpose of making possible land uses, including, but not limited to: recreational, recreational/residential, residential, institutional and commercial development compatible within oil field areas in the city. As of 2017, the Combining Oil Zone is not currently no longer used since there is only one active well in the city.

Mineral Resources

Surface Mining and Reclamation Act

California's Surface Mining and Reclamation Act of 1975, referred to as SMARA, was enacted to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. Requirements for SMARA are codified under PRC §§ 2710 et. seq. Under state law, all mining operations are required to obtain permits prior to commencing operations and abide by local and state operating requirements. Mining operations are also required to have appropriate reclamation plans in place, provide financial assurances, and abide by state and local environmental laws.

In accordance with SMARA, the State Geologist is also required to identify lands with potential mineral resources, and the State Mining and Geology Board can further designate these lands of regional or statewide significance. The Department of Conservation classifies lands into four mineral resource zones (MRZs):

- **MRZ-1.** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their feasible production.
- **MRZ-2.** Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. This classification may contain additional subcategories.
- **MRZ-3.** Areas containing mineral deposits whose significance cannot be evaluated from available data. MRZ-3 areas may be classified 3a or 3b based on their potential for resources.
- **MRZ-4.** Areas where available information is inadequate for assignment to any other zone. Unlike MRZ-1, minerals may be present, but information is not available to make a determination.

Generally, SMARA requires all local governments (cities and counties) to address mineral recovery activities at three levels. First, local governments are responsible for setting policy—adopting and implementing mining regulations in accordance with state and federal laws—through the general plan and/or zoning code. Local governments must also identify and map mineral resource zones in their general plans. Finally, they are responsible for establishing policies and programs that balance the needs of the state and the region with local environmental quality.

PRC § 2763 sets forth requirements to protect mineral deposits from premature loss. Prior to permitting a use that would threaten the potential to extract minerals on lands classified or designated with significant mineral deposits, the lead agency must prepare a statement specifying its reasons for permitting the proposed use. In the statement, the lead agency must consider its mineral resource management policies, balance the value of the minerals on the site against alternative land uses, and consider the importance of the minerals to the region. This allows cities to weigh the economic and environmental values of mining versus other land uses.

Corona 2004 General Plan

The current Corona General Plan does not have goals and policies for oil and gas drilling—presumably because only one well remains operational. However, the General Plan allows for mining activities in land designated General Industrial in the City, El Cerrito, and Temescal Valley. Specific goals include:

- **Goal 10.13.** Ensure that the process and manner of locating and extracting mineral resources in the City and Planning Area occur in a nonimpactive manner.
- **Goal 10.14.** Encourage exploration of mineral resources within the City of Corona's boundaries and Sphere of Influence.
- **Goal 10.15.** Honor surface mining permits and reclamation plans that were issued by the Riverside County for sites that are annexed into the City of Corona.
- **Goal 10.16.** Recognize and protect valuable mineral resources in a manner that does not create land use conflicts.
- **Goal 10.17.** Consider all State-classified and/or designated mineral resources as resources to protect and utilize; consider the protection of mineral resources that are significant but do not have the State Classification of MRZ-2.

The above mining goals are supported by more than two dozen policies and implementation programs that are designed to allow for continued mining activities in Corona, address land use compatibility issues associated with mining operations, protect the natural environment and sensitive habitats, and otherwise comply with local and state regulations consistent with SMARA and other relevant codes.

Corona Municipal Code

The Corona Municipal Code, Title 19, Surface Mining and Regulations, is intended to regulate surface mining operations and reclamation plans in accordance with SMARA. The ordinance was intended to ensure that: (1) subsequent beneficial uses of mined and reclaimed land are promoted and the land is returned to a usable condition; (2) groundwater supply, recreation, watershed, wildlife, range and forage, and aesthetic enjoyment are given appropriate consideration in the planning process; and 3) the production and conservation of mineral resources are encouraged. The ordinance addresses: surface mining permits and reclamation plans, minimum site performance standards, annual inspections and financial security, and enforcement. The municipal code requires a Mineral Resource Overlay on all lands identified for mineral resource protection in Corona and its sphere of influence. As required by state law, the City adopted required local regulations pursuant Ordinance No. 2386, which was certified by the State Mining and Geology Board in 1999.[2]

[2] Ordinance 2386, an ordinance of the City of Corona, to comprehensively amend Title 19 of the Corona Municipal Code relating to standards and requirements for surface mining operations and the reclamation thereof in accordance with the Surface Mining and Reclamation Act of 1975.

4.2.2 Existing Conditions

This section describes existing conditions of resource extraction activities in Corona, including oil, gas, geothermal, and mineral extraction activities.

Oil, Gas, and Geothermal Resources

The City of Corona has two primary areas that underwent significant oil and gas exploration in the 20th century.[3] The Prado-Corona field and northern portion of Corona were drilled for oil and gas, primarily from 1965 to 1993. After several smaller spills, wells were declared an environmental hazard due to the potential for spills in the Prado Dam region, home to one of the largest wetlands in the southland and to more than 200 species of migratory birds. As a result of court orders, the wells were permanently plugged and abandoned in 1996.[4]

Outside the Prado-Corona field, the second main area for oil and gas exploration is a band running along the I-15 from the northern part of the City to the lower Temescal Canyon. Numerous plugged or abandoned oil or gas wells from the 1930s to 1960s are in this area. As of 2017, no wells are active except for one in Temescal Valley. According to the Department of Conservation, there is currently no drilling in the City, and no applications have been proposed or approved for simulated well treatments (i.e., fracking). For all intents and purposes, oil and gas drilling is no longer a viable industry in Corona and its SOI.

In 2017, the Governor signed AB 2729 for the purpose of reducing the number of idle oil and gas wells in California and potential hazards associated with them. Beginning January 2018, all operators must either: 1) file and comply with an idle well management plan (IWMP) for addressing long-term idle wells; or 2) pay annual fees for each idle well. Corona currently has at least four wells that are classified "idle" under this program and are subject to its regulations. Under the new law, operators who submit an IWMP must gradually eliminate their inventory of idle wells. Other oil and gas wells in Corona may be deemed idle and subject to these regulations as well.

Under the federal Geothermal Steam Act, the U.S. Geological Survey (USGS) has mapped 13 areas in California as "Known Geothermal Resources Areas"; none are within Riverside County.[5] However, Riverside County has localized geothermal heat sources. According to the National Oceanic and Atmospheric Administration's National Centers for Environmental Information, several local sources of geothermal activity are in Temescal Valley, including the Glen Ivy Hot Springs, Wrenden Hot Springs, and others near the I-15 in Murrieta and Temecula. However, none of these sites is large enough to qualify as a significant geothermal resource.

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[3] Division of Oil, Gas, and Geothermal Resources Well Finder, Accessed at: http://www.conservation.ca.gov/dog/Pages/Wellfinder.aspx

[4] The Prado Basin Oil Wells: A Case History, Department of Conservation, 1997. Accessed at: https://www.onepetro.org/conference-paper/SPE-38257-MS

[5] Geothermal Map of 2002, California Geological Survey, Division of Oil, Gas, and Geothermal Resources, 2002. Accessed at: ftp://ftp.consrv.ca.gov/pub/oil/maps/Geothermal/MapS-11.pdf

Mineral Resources

The City of Corona and SOI are in the Temescal Valley Production Area (TVPA), an 820-square-mile area designated by the California Geological Survey (CGS) and bounded by the Santa Ana Mountains on the west and the Perris Plateau to the east. Included are the Santa Ana River Valley, Chino Hills, and Jurupa Mountains to the north; the east slopes of the Santa Ana Mountains; and the Elsinore Mountains to the west. It also includes the western and southern part of Perris Valley and the drainage of the Santa Margarita River system. The TVPA consists of a mix of rugged mountain terrain, rolling hillsides, alluvial valley floors, and river bottoms.

Temescal Valley is known for its mineral resource deposits. Portions of the City and its SOI are designated by the state as a "Construction Aggregate Resource Area." These mineral resources generally consist of clay and construction aggregates—crushed rock, sand, and gravel. Much smaller amounts of silver, lead, zinc, coal, and gypsum have also been identified in the City limits and SOI. These mineral resources are briefly summarized:[6, 7]

- **Rock Products.** The TVPA is rich in aggregate resources. Crystalline, sedimentary, and metasedimentary rocks are prevalent and have been designated by the state as significant mineral deposits that have regional importance. Most of these mineral resources are in the City's SOI. Metasedimentary rocks found include quartzite, argillite, and limestone. Crystalline rocks quarried in this area include quartz latite porphyry, granodiorite, and quartz monzonite.
- **Clay Production.** Corona's SOI includes the oldest and most productive clay district in southern California, dating to the 1890s. Currently within the City limits is one known clay resource site classified MRZ-2. Discovered in 1975, this site is known as the Dominguez Mine and is south of the Sierra Del Oro Specific Plan area. The bulk of clay goes into the production of roofing and patio tile.
- **Sand and Gravel.** Corona's sand and gravel resources include stream deposits and deposits in older geologic formations. Stream deposits include stream-channel deposits and flood-plain deposits adjacent to the active channel. Sand and gravel are occasionally produced from deposits of intrusive granitic or volcanic rock, typically in the hills and mountains east of Temescal Valley.
- **Other Minerals.** Other minerals have been identified in the hills east of Temescal Wash and in the Santa Ana Mountains south of Corona. Tin, copper, silver, and gold have all been discovered, but not in the quantities necessary for economic viability. Quartz latite porphyry—used for roofing granules—is found in the area just north of Cajalco Road. Additionally, a high-grade silica sand deposit is exposed just southeast of Corona in the Bedford Canyon Area.

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[6] Mineral Land Classifications of the Temescal Valley Area, Riverside County, California: Special Report 165, California Department of Conservation Division of Mines and Geology, 1991.

[7] Update of Mineral Land Classifications for Portland Cement Concrete Grade Aggregate in Temescal Valley Production Area, Riverside County, Special; Report 231, California Geological Survey, 2014.

Active Mines in Corona

The City of Corona and Temescal Valley have been the location for extensive mining in the past; more than 75 mines have operated in Corona and its SOI. However, many of these mines are no longer in operation. As of 2017, Corona has 2 active mining operations (All American and Vulcan/Calmat), and the SOI has 10 active mining operations. Table 4-1, *Active Mining Operations in Corona*, lists the active mines, their permits, materials mined, reserves, and annual production.

Table 4-1 Active Mining Operations in Corona

Mine Name	Mine ID / RC Case	Permit Acres	Materials Mined	Reserves; MT=mil tons	Max. Annual Production
Mines in Corona					
All American Asphalt	91-33-0005 SMP90-1, SMP2017-0101	263	Sand & Gravel	N/A	N/A
Corona Quarry (CalMat/Vulcan)	91-33-0027 SMP12-001	260	Sand & Gravel	400 MT	5 MT
Mines in Sphere of Influence					
3M Corona	91-33-0016 RCL00136	1,320	Specialty Sand	5 MT	0.5–2.0 MT
Chandler-Coldwater	91-33-0014 RVP00135	75	Sand & Gravel	67 MT	0.6 MT
Chandler-Sierra Plant	91-33-0011 SMP00202	198	Sand & Gravel	64 MT	2.2 MT
Mobile Sand Company	91-33-0007 SMP00119	75	Sand & Gravel	1.3 MT	0.4 MT
Eagle Valley	91-33-0035 SMP00152R1	128	Sand & Gravel	65.6 MT	1.6 MT
Mayhew Canyon	91-33-0039 SMP00139R1	N/A	Sand & Gravel	46 MT	2.0 MT
Ben's Mine/ Mission Clay	91-33-0034 RCL00135	67	Clay	7 MT	0.25 MT
Harlow Quarry / Robertsons	91-33-0061 RCL00118	59	Sand & Gravel	13.3 MT	5,000 Tons
Corona Clay Pit / USA Waste	91-33-0074 SMP00175R1	25	Clay	N/A	N/A
Glen Ivy #1 / Werner	91-33-0001 SMP00143	115	Sand & Gravel	26.2 MT	0.75 MT

Source: California Department of Conservation, Riverside County, 2017

Mineral Resource Classification Zones

Corona has been extensively mapped by the CGS, and lands have been assigned classifications for mineral resources. The City is primarily underlain by MRZ-2 lands, which are known to contain valuable mineral resources, specifically construction aggregate and industrial minerals. While much of that area has already been developed, extensive resources still exist in the Gavilan Hills and in southwest Corona. A large portion of the aggregate resources has also been designated by the state as regionally significant.

California general plan law requires that a city develop policies and programs that address the use, management, and preservation of significant mineral resources. In 1990, the City of Corona developed a three-part classification system for MRZ-2 lands to meet the requirements of state law while accommodating development interests in the City.[8] These policies and programs were folded into the General Plan and allow for the continued use of identified mineral resources in the City and its SOI.

Table 4-2, *Mineral Resource Zones in Corona*, provides an inventory of lands in Corona that fall under a mineral land use classification by CGS. Figures 4-1a and 4-1b illustrate the location of industrial mineral and aggregate resources in Corona. Industrial mineral deposits are in the southern portion of Corona and its SOI. Aggregate deposits are east of the I-15 and in the City's southernmost SOI. Many of the City's aggregate deposits have also been designated as regionally significant by the California State Mining and Geology Board (Figure 4-2).

Table 4-2 Mineral Resource Zones in Corona

Mineral Resource Zone Classifications	City of Corona (acres)	Sphere of Influence (acres)	General Plan Planning Area (acres)
Construction Aggregate			
MRZ-1	61	197	258
MRZ-2	1,869	2,527	4,396
MRZ-3	23,620	13,791	37,411
Industrial Minerals			
MRZ-2a	124	704	828
MRZ-3a	2,183	1,647	3,830
MRZ-3b	2,171	2,266	4,437
MRZ-4	21,073	11,897	32,970
Source: California Department of Conservation, 2014			

[8] Corona, staff memo and environmental impact assessment for GPA 90-7, August 7, 1990

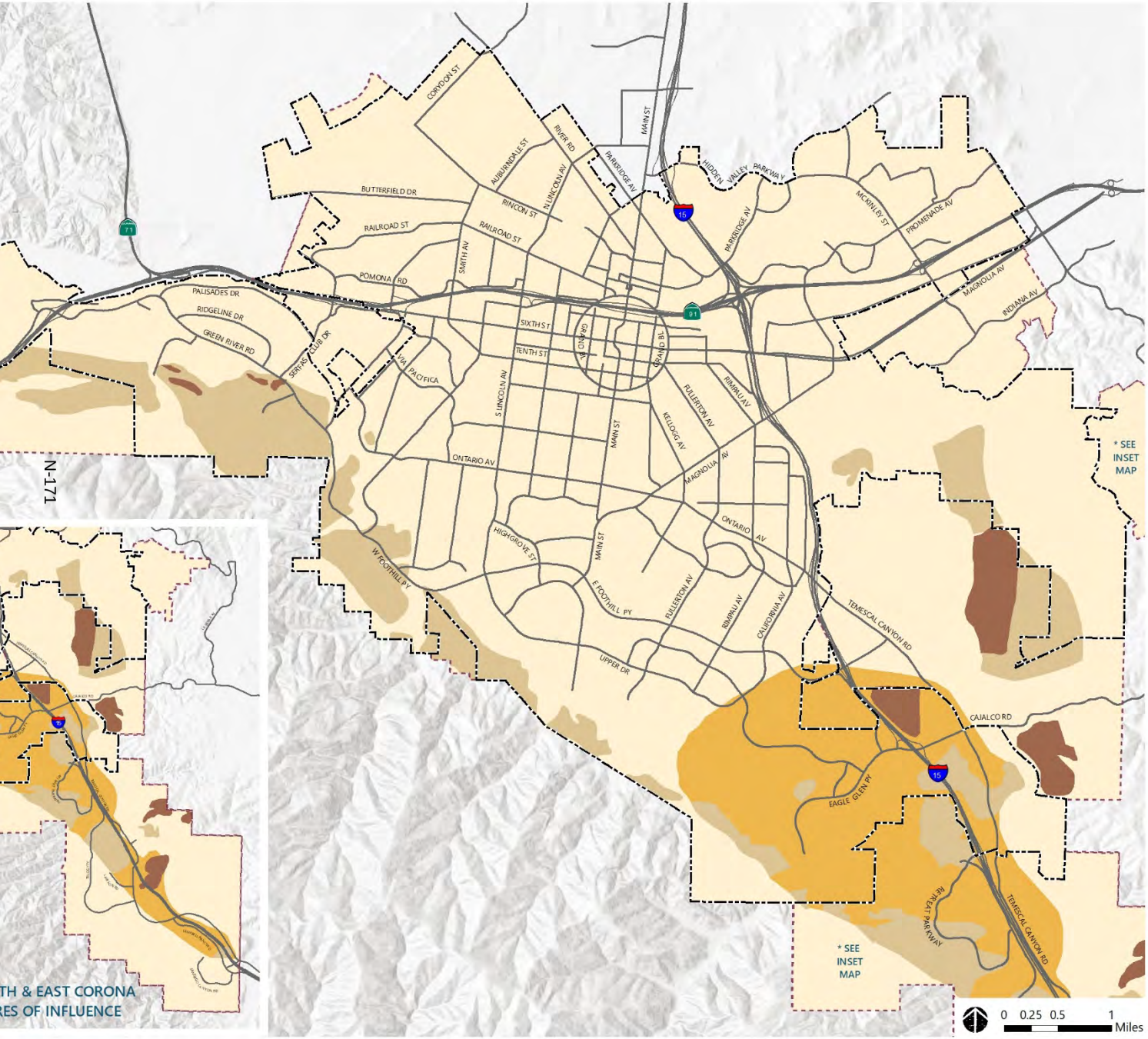


Figure 4-1a
Industrial Minerals

Legend

Mineral Resource Zones

- MRZ-2a
- MRZ-3a
- MRZ-3b
- MRZ-4
- City Boundary
- Sphere of Influence Areas

Source:
California Department of Conservation, Division of Mines and Geology, 2017

CORONA General Plan

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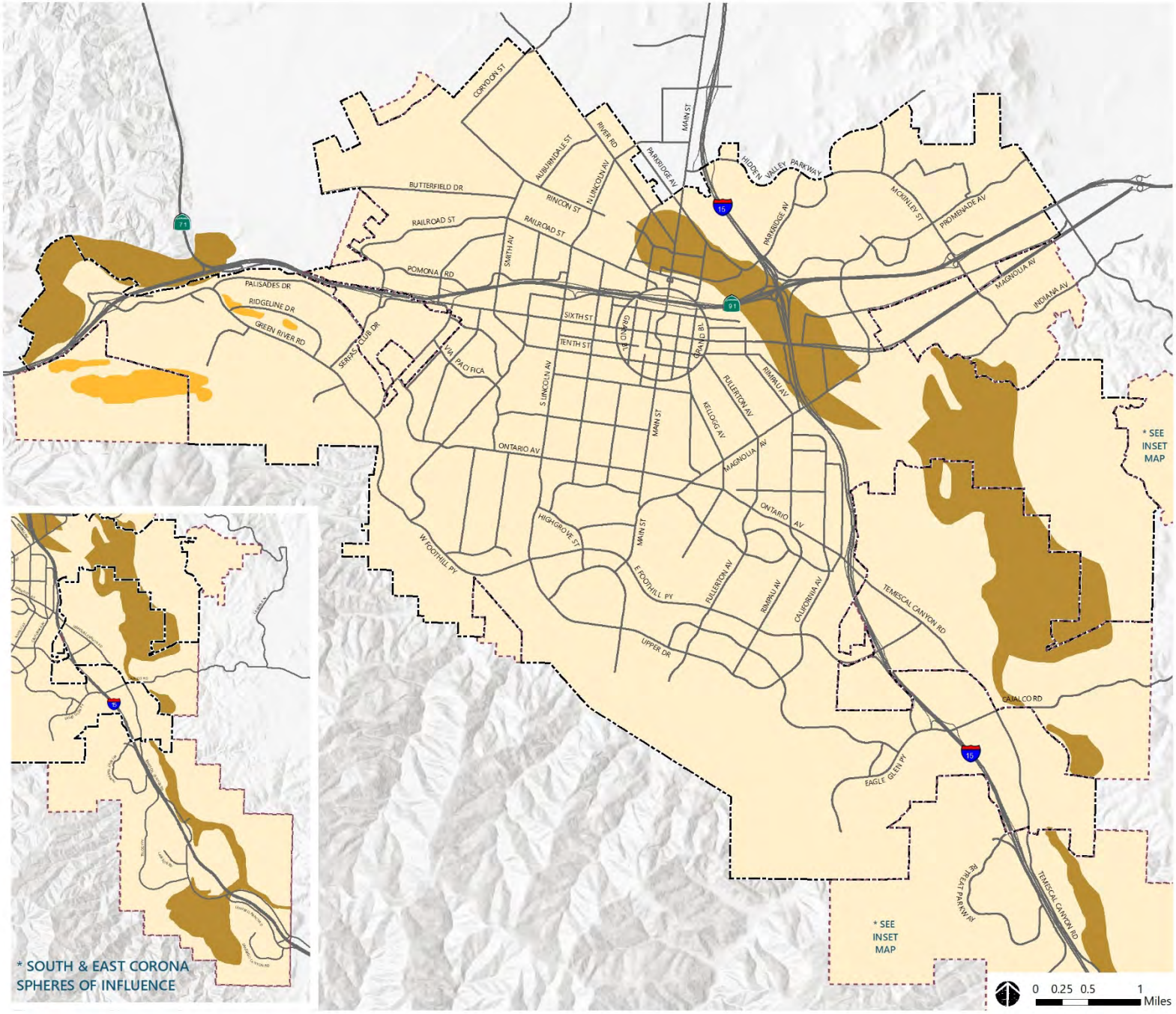


Figure 4-1b Construction Aggregate

Legend

Mineral Resource Zones

- MRZ-1
- MRZ-2
- MRZ-3
- City Boundary
- Sphere of Influence Areas

Source:
California Department of Conservation, Division of Mines and Geology, 2017

CORONA General Plan

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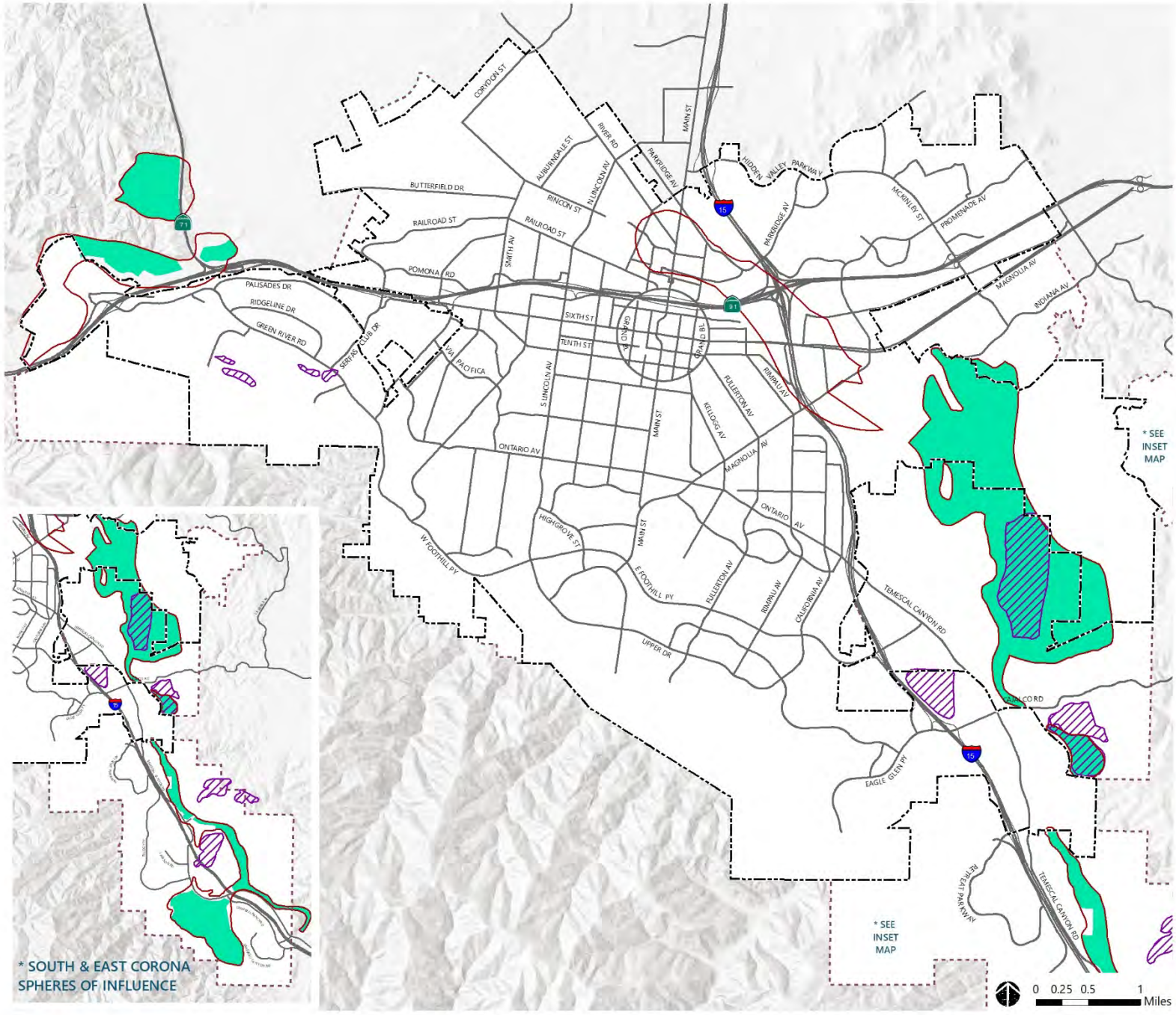


Figure 4-2 Areas of Mineral Resource Significance

Legend

- Classified Aggregate Minerals
- Classified Industrial Minerals
- Designated Aggregate Resources
- City Boundary
- Sphere of Influence Areas

Source:
California Department of Conservation, Division of Mines and Geology, 2017

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4.3 GEOLOGY, SOILS, FORESTRY, AND AGRICULTURE

This section describes the regulatory framework and existing conditions affecting the City of Corona and its SOI with respect to geological, soils, forestry, and agricultural resources. Hazards related to these resources are discussed in Chapter 5, *Environmental Hazards*, of this report.

4.3.1 Regulatory Framework

Geology, soils, forestry, and agricultural resources are regulated primary by the Department of Conservation, the County of Riverside, the Riverside-Corona Resource Conservation District, and the City of Corona. Key laws and regulations are briefly summarized.

California Land Conservation Act

The California Land Conservation Act, or "Williamson Act," encourages property owners to continue using their property for agricultural purposes, thus preventing the premature conversion of farmland to urban uses. Under the Williamson Act, property owners can apply to have their property assessed based on its agricultural production value rather than its market value as long as the land is under contract to remain in agricultural production. In 1998, the Land Conservation Act was amended to include Farmland Security Zone (FSZ) provisions. An FSZ contract offers landowners greater property tax reductions in return for a 20-year contract term, with automatic renewal each year. Participation is implemented through the establishment of Agricultural Preserves and execution of Williamson Act contracts, which restrict or prohibit conversion of these properties to nonagricultural uses during the contract term. Corona has no Williamson Act contracts remaining in the community.

Forestland and Timberland Protection

State regulations such as the Forest Taxation Reform Act of 1976 and the Z'berg-Nejedly Forest Practice Act of 1973 (California Forest Practice Act) provide for the preservation of forest lands from encroachment by other, incompatible land uses and for oversight of the management of forest practices and forest resources. The California Timberland Productivity Act of 1982, like the Land Conservation Act, was passed to encourage the production of timber resources. "Timberland" is defined as land capable of growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees (PRC § 4526), or land devoted to and used for growing and harvesting timber, or compatible uses (Government Code § 51104(f)), or forestland as defined by PRC § 12220. County boards of supervisors may designate areas of timberland preserve, referred to as Timberland Production Zones, which restrict the land's use to the production of timber for an initial 10-year term in return for lower property taxes.

California General Plan Law

The California Government Code (§ 65302(d)) requires the general plan to include an open space and conservation element for the conservation, development, and utilization of natural resources—including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element must consider the effect of development on natural resources that are on public lands. The element must also cover:

- The reclamation of land and waters.
- Prevention and control of the pollution of streams and other waters.
- Regulation of the use of land for the accomplishment of the conservation plan.
- Prevention, control, and correction of the erosion of soils, beaches, and shores.
- Protection of watersheds.
- Location, quantity, and quality of the rock, sand, and gravel resources.
- Waterways, flood corridors, riparian habitats, and land that may accommodate floodwater for groundwater recharge and stormwater management.

In October 2017, the state legislature passed SB 732, which authorizes a city to develop an agricultural land component of the open space element or a separate agricultural element in its general plan. For local governments that choose this option, the bill authorizes the Department of Conservation to award grants, bond proceeds, and other assistance provided the element meets certain requirements.

Riverside County General Plan

The Riverside County General Plan contains policies to support agricultural uses. In the open space element, policies 7.1 through 7.5 seek to preserve prime farmland; encourage compatible agricultural uses; and work with agencies to reduce soil erosion, improve soil quality, and address pest management. Policies 8.1, 8.2, and 9.4 encourage the conservation of forestlands and natural habitats in the Western Riverside County Multi-Species Habitat Conservation Plan and conserve the oak tree resources in the county. Land use element policies 20.1–20.7 encourage viable agricultural uses through land use regulation, Williamson Act contracts, the County's right-to-farm ordinance, tax incentive programs, and other land use programs

The Temescal Canyon Area Plan (TCAP) contains goals and policies to support efforts to conserve soils needed for plants and habitat. These include supporting the conservation of rocky soils coinciding with coastal sage scrub (TCAP 19.15), preservation of clay soils for sensitive plant species (TCAP 19.6), and conservation of sandy soils for chaparral (TCAP 19.7). The TCAP also has a land use designation for row crops, nurseries, dairies, poultry farms, processing plants, and other related uses. Limited agricultural uses are allowed in the many rural and open space designations. Although county policies address agricultural uses, the TCAP does not have separate policies that encourage or preserve existing agricultural land uses.

Corona 2004 General Plan

Although much of Corona has transitioned from agricultural to urban land uses, the Corona General Plan contains an agricultural land use designation that is intended to accommodate agricultural activities, such as citrus crops, and allow for the construction of housing and ancillary facilities. The following General Plan goals support existing and future agricultural operations:

» **Goal 1.22.** Maintain existing agricultural operations (McMillan property) as an open space amenity of the City, while allowing for the possibility of future development that would complement adjoining land uses.

» **Goal 10.10.** Protect forest and vegetation resources in the City of Corona and the Planning Area. [Note: These policies are also addressed more fully in the biological resources section of this chapter.]

» **Goal 10.12.** Promote preservation of agricultural on lands designated as such in the Land Use Element and protect adjacent uses from impacts related to agricultural activities.

The General Plan designates approximately 500 acres for agricultural uses under the Agricultural (AG) Land Use designation. With respect to zoning, 2,500 acres are zoned for a variety of agricultural uses.

Corona Municipal Code

The Corona Municipal Code has two overlay zones—Agricultural Products (AP) and Animal Keeping and Agricultural Operation (AA)—that allow for agricultural uses. The AP overlay zones was originally developed during the early 1980s when Corona was primarily agricultural and before the trend in suburban development. The AA overlay zone was created in 2013 when the city attempted to annex Temescal Valley.

» The AP Overlay Zone allows for an interim use of land for the retail sales of plant goods, fruits, vegetables, and associated products that conform to the A zone that will provide improvements in conformance with the general health, safety, and general welfare of the city. This zoning designation will continue to allow for existing agricultural land uses.

» The AA Overlay Zone accommodates the rural-residential properties in Temescal Valley that were annexed to the City. The AA overlay zone allows for field crops, vegetable gardening, greenhouses, and tree crops; noncommercial keeping of certain animals associated with more rural agricultural land uses (cattle, sheep, horses, etc.); and other ancillary uses consistent with the overlay zone.

The 2004 General Plan maintains an Agricultural Land Use Designation and Rural Residential Land Use Designation that allow for agricultural operations. But the number of land uses that would require this designation have declined over the past several decades. Therefore, these current overlay zones are no longer being used. Chapter 2, *Community Development*, of this report provides additional information on allowable agricultural land uses in Corona.

4.3.2 Existing Conditions

This section describes the geologic characteristics of the City of Corona and its SOI with respect to soils and agricultural resources. Information for this section was obtained from the USGS, the City of Corona, the County of Riverside, aerial photography, and literature review.

Geological Setting

The Corona Planning Area is in the Peninsular Ranges geomorphic province. The City of Corona and its SOI, which comprise the planning area, sit in a notably complex and active geological area. Mountains, which were formed by tectonic forces, surround the Los Angeles Basin and make up the unique geology of the area. These transverse mountain ranges include the San Bernardino Mountains, the San Gabriel Mountains, and the Santa Monica Mountains. Some of the higher peaks are Mt. Baldy in the San Gabriel Mountains at 10,124 feet above mean sea level (amsl), Mt. San Jacinto in the Peninsular Mountains at 10,804 feet amsl, and Mt. San Gorgonio—the highest mountain in Southern California—reaching an elevation of 11,502 feet amsl.

The City and SOI are bounded by the Prado Flood Control Basin and the Chino Hills to the north and northwest, respectively. The Temescal Wash and undeveloped Temescal Valley bound the planning area along the east and southeast. The Corona-Elsinore Trough is a graben valley (i.e., bounded on at least two sides by faults) that extends from Corona in the northwest to Elsinore in the southwest, between the Santa Ana and the Temescal Mountains. The central portion of the Planning Area also contains the Corona fan, which slopes gently toward the northeast across the Corona-Elsinore Trough to the Temescal Wash. The Temescal Valley is bounded by low-lying hills associated with the convergence of the Temescal Mountains from the east and the Santa Ana Mountains from the west along the west and southwest edge of the City and into the Temescal Valley portion of the SOI.

Elevations across the planning area range from about 550 feet amsl along the Prado Flood Control Basin to approximately 1,600 feet amsl in the Temescal Mountains and Santa Ana Mountains. Elevations across the flatter portions of the planning area in the Corona-Elsinore Trough range from a low of 550 feet amsl in the Prado Flood Control Basin to a high of nearly 1,200 feet amsl in the Temescal Valley. Local topography ranges from gently sloping areas in the central portion of the City (in the Corona-Elsinore Trough) to steeper topography in the adjacent mountain areas. The majority of the area in the City (approximately 70%) lies on a slope of 10% or less. Slopes increase with proximity to the Temescal and Santa Ana mountains, and areas with more severe slopes are concentrated in the southwest, south, and eastern portions of the City, following the foothills of these mountains.

Local Geology and Soils

Based on field observations and literature review, including published geologic maps and available geotechnical reports, the planning area is underlain by surficial soils such as fill, alluvium, and topsoil; formational units such as divided and undivided

Cenozoic and Mesozoic sedimentary rocks; and Cretaceous igneous rocks of the southern California batholith. A brief description of these units is presented below.

Sedimentary-Alluvium

Broadly, the City is overlaid by alluvium sedimentary rocks. Younger sedimentary rocks range from the Holocene epoch to the late Pleistocene epoch and generally consist of unconsolidated gravel, sand, and silt associated with intermittent river and alluvial fan deposits. These materials generally have no visible surface dissection and negligible soil development. The alluvium ranges in thickness from relatively thin (a few feet) in minor drainages and washes to 100 feet or more in the Santa Ana River. These soils run the length of Corona, from Prado Basin through Temescal Canyon.

Older sedimentary geologic materials are also found in Corona. These materials are from the Pleistocene epoch and consist of poorly consolidated gravel, sand, and silt associated with inactive drainages and fans. This unit generally has slightly dissected surfaces with some poorly developed argillic soil horizons. This unit comprises most of the Corona compound alluvial fan, which outcrops from the Santa Ana River to Bedford Wash. This unit reaches a maximum thickness of 100 feet around Bedford Wash, thinning in an easterly direction toward the Santa Ana River valley.

Sedimentary-Other

Corona is overlaid by a younger sedimentary unit that includes a wide range of rocks from the Cenozoic Era. The largest components include the Pliocene Fernando Formation, late Miocene to Pliocene Puente Formation, the late Eocene Vaqueros Formation, the late Eocene Sespe Formation, and Paleocene Silverado Formation. The Fernando Formation consists of thick bedded, gray to white, marine sandstone. Outcrops of this unit are minor and scattered along the northern portions of Corona near Temescal Wash and to the south near Bedford Wash. The Puente Formation consists of gray to brown, massive, resistant sandstone, conglomerate, siltstone, and shale. This unit generally outcrops between Main Street Canyon and Bedford Wash south of Corona and in the Santa Ana Narrows area. The Vaqueros and Sespe formations consist of red, gray, and grayish-green, marine conglomerate and sandstone and nonmarine conglomerate and sandstone with green to red clayey siltstone and sandstone. The unit is typically poorly consolidated, weakly indurated, and easily eroded. Outcrops occur along the west side of Corona south of Bedford Wash and in the Santa Ana Narrows area. The Silverado Formation, which outcrops across the City from the Santa Ana Canyon to Bedford Wash, consists of brown to reddish brown, white to greenish-gray and gray, sandstone, conglomerate, siltstone, and shale overlaying micaceous sandstone, lignite, and clay.

Older sedimentary units can also be found from the Mesozoic era, including the late Cretaceous Williams, Ladd, and Trabuco formations and the Jurassic Bedford Canyon Formation. The Williams and Ladd formations consist of feldspathic sandstone, siltstone, conglomerate, and conglomeratic sandstone. The Ladd Formation also contains thick sequences of nonconglomeratic shale and siltstone. The Trabuco Formation is mainly brown to maroon, massive nonmarine conglomerate with local sandstone and siltstone beds. The Bedford Canyon Formation generally consists of black, moderately to well bedded argillite, brown graywacke, and massive

conglomerate, undivided. Low-grade regional metamorphism is pervasive in this unit. This unit generally outcrops within the Santa Ana Mountains located along the southwestern portion of the City. Outcrops of this unit form weak round slopes relative to other geologic units in the City.

Igneous and Metamorphic

The eastern and western fronts of Corona are underlaid by igneous and metamorphic rock units. These geologic materials are from the Mesozoic era and generally consist of brown to gray, granite, tonalite, quartz monzonite, granodiorite, and quartz diorite. These materials generally outcrop along the eastern portions of the City, including the Temescal Mountains and the northeastern portions of the City. The Santiago Peak Volcanics are late Jurassic period and generally consist of dark-gray porphyritic andesite flows, flow breccia, and tuff. This unit unconformably overlies the Bedford Canyon Formation with approximately a 90-degree difference in dip. This unit generally outcrops in the Santa Ana Mountains along the western part of the City.

Other Categories

The City has several additional categories of geologic materials—engineered fill and landslide deposits. Engineered fill consists of materials that have been reworked and compacted from human construction or mining activities; it includes sand and gravel operations near Temescal Wash, road grades and ramps along Interstate 15, and some flood control features in and adjacent to Temescal Wash. The City also has various landslide deposits ranging from the late Holocene to the Pleistocene epochs. The deposits are mainly found along the southwestern edge of the City—an area susceptible to landslides. These units include the scarp area and the slide deposit.

Soil Types

Soils in the City of Corona are predominantly of the Monserate-Arlington-Exeter associations. These soils tend to have a low to moderate swell (expansion) potential and are well drained. They occur on nearly level to moderately steep slopes, and consist of a surface layer of sandy loam to loam with a shallow to deep hardpan. Other soils in the City include the Friant–San Miguel–Exchequer association along the west and southwest boundary of the City and in a small portion of the southeastern area of the City. Friant series soils are generally shallow, well drained, and typically occur on slopes ranging from 15% to 25%. Small areas in the northeastern and central-eastern portions of the City are underlaid by the Fallbrook-Vista-Cieneba association, which is similar to the Friant association, is well drained and occurs on 30% to 50% slopes. Also, a portion of the east and southeast areas in the City are underlaid by the Cajalco-Temescal-Los Posas association, with well-drained, undulating to steep, moderately deep to shallow soils.

Figure 4-3, *Geology/Rocks*, on the following page illustrates the location of different rocks and soils in Corona and its SOI.

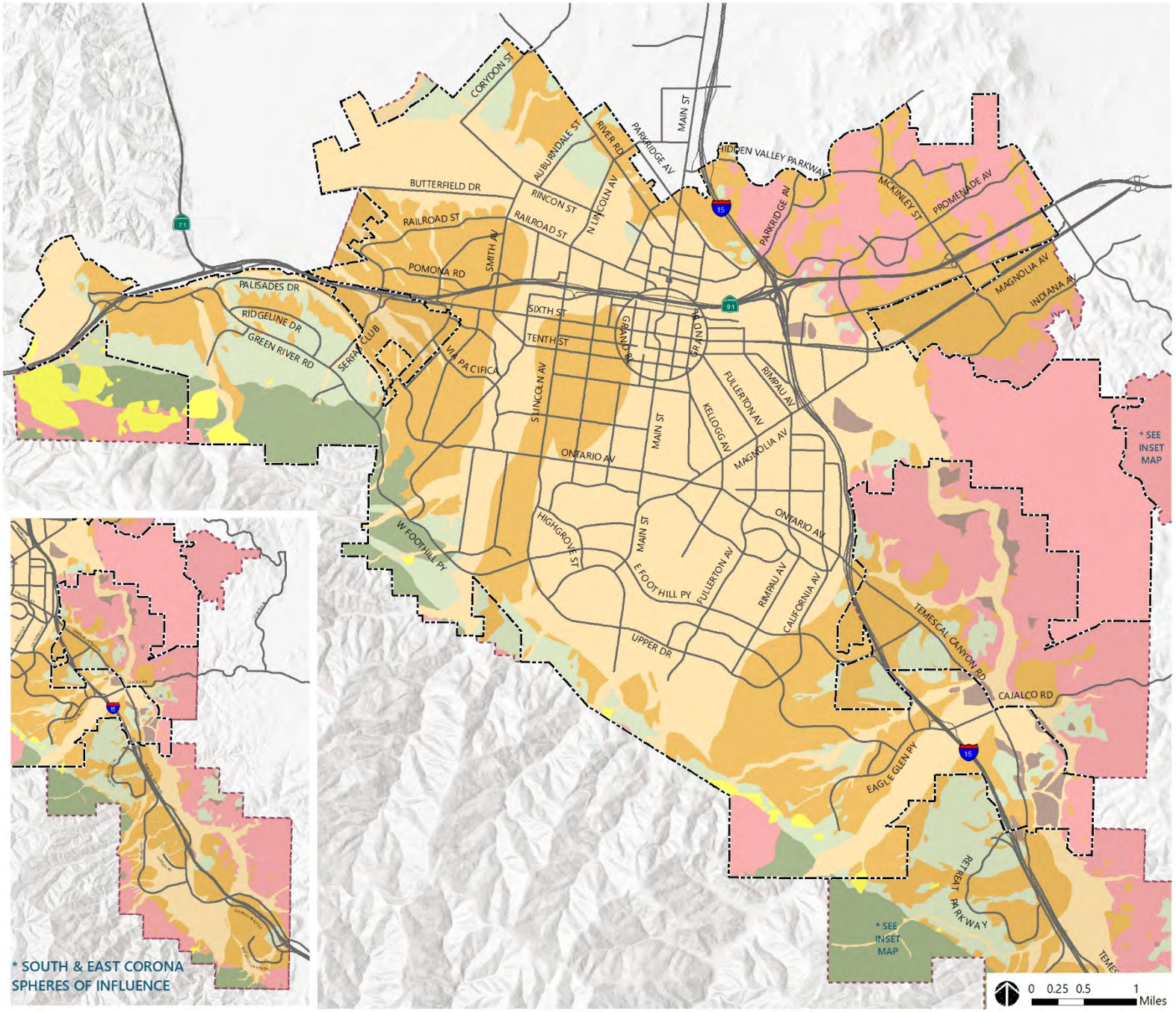


Figure 4-3 Soil Types in Corona

Legend

- Engineered Fill
- Younger Sediments (Holocene to late Pleistocene)
- Older Sediments (Pleistocene)
- Landslide Deposits (Holocene to Pleistocene)
- Younger Sedimentary Rocks (Cenozoic)
- Older Sedimentary Rocks (Mesozoic)
- Igneous and Metamorphic Rocks (Mesozoic)
- City Boundary
- Sphere of Influence Areas

Source:
Morton, 2004. Preliminary Digital Geologic Map of the Santa Ana 30' X 60' Quadrangle, Southern California, Version 2.0.

CORONA General Plan

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Agricultural Lands

The City of Corona's agricultural resources can be grouped into the following categories of agricultural land used by the Department of Conservation. Table 4-3, *Agricultural Resources in Corona* and the following describe the types of agricultural resources in Corona and its SOI. However, the agricultural resources shown in Table 4-3 do not necessarily have an agricultural land use on the General Plan.

- **Prime Farmland.** Farmland with the best combination of physical and chemical features (soil quality, growing season, moisture supply, etc.) able to support long-term agricultural production. This land has the soil quality, growing seasons, and moisture needed to produce sustained high yields.
- **Farmland of Statewide Importance.** Farmland other than Prime with a good combination of physical and chemical characteristics, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. The land must also have been under irrigated production during past four years.
- **Unique Farmland.** Lands consisting of lesser quality soils used to produce the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones. The land must also have been under irrigated production during past four years.
- **Farmland of Local Importance. Lands** that would be classified as Prime or of Statewide Importance, but lack available irrigation water. Lands could be planted with dryland crops of barley, oats, and wheat. Also includes lands in production of major crops, dairy lands, or lands within agricultural zones or contracts.[9]
- **Grazing land.** Land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for grazing land is 40 acres. These lands comprise the vast majority of all agricultural resources in Corona.

Table 4-3 Agricultural Resources in Corona

Agricultural Lands	City of Corona Total Acreage	Sphere of Influence Acres	General Plan Planning Area
Prime Farmland	98	18	116
Farmland of Statewide	24	49	73
Unique Farmland	86	401	487
Farmland of Local Importance	1,214	861	2,075
Grazing Land	1,762	4,163	5,925
Total	**3,183**	**5,491**	**8,674**
Agricultural Preserves	N/A	331	331

Notes: Farmland Mapping and Monitoring Program, 2016; Riverside County, 2019

[9] Specific definitions for farmland of local importance in Riverside County can be found at: *Farmland of Local Importance, Local Definitions,* http://www.conservation.ca.gov/dlrp/fmmp/Documents/Local_definitions_00.pdf, website accessed February 16, 2011.

Forestland

Corona's western border is shared by the Cleveland National Forest, which is managed by the U.S. Forest Service. The Riverside County portions of the Cleveland National Forest only reach moderate elevations of 2,000 to 3,000 feet amsl and generally do not support large expanses of mature conifers. According to CAL FIRE, however, there are no current or planned fixed commercial timber operations subject to a Timber Harvesting Plan in southwest Riverside County. There are also no timber production zones in the City of Corona or its SOI.

However, Corona's hillsides and canyons do contain a mix of riparian forest, southern sycamore alter riparian woodland, and southern coast live oak riparian forest. Montane coniferous forest resources are also in several locations of Corona, including the westernmost SOI and Sierra del Oro area, Eagle Valley, the western interface with the Cleveland National Forest, and portions of El Cerrito. The Prado Basin also contains areas with forestland, riparian scrub, woodland forest. Additional information on these areas can be found later in this chapter.

Isolated woodlands that could fall under the definition of forest land per California Public Resource Code Section 12220(g) are located in Temescal Canyon, the western boundary of the City (which shares its western boundary with Cleveland National Forest), and west of Coronita. Additionally, riparian scrub, woodland, and forest lands are predominantly found in El Cerrito, Temescal Canyon, and the northern portion of the City, east of the Prado Basin. These woodlands are primarily located on water and flood control, vacant, open space, and natural open space lands.

Other Agricultural Uses

Historically, agricultural preserves and uses covered a significant portion of Corona. Due to significant development over the past 50 years, Corona no longer has any agricultural preserves within its incorporated boundary. However, several large preserves remain that are located adjacent to its eastern boundary, most notably in Eagle Valley. While large-scale agriculture no longer exists in Corona, urban agriculture has become a more popular practice. Several faith-based organizations in Corona have established and maintain community gardens. These include community gardens at Peace Lutheran Church and Corona Methodist Church.

Figure 4-4 on the following page depicts the location of agricultural resources in Corona and its SOI according to the state of California's farmland mapping program. The vast majority of the remaining productive farmland is located in southwest Corona, and the majority of grazing land is located east of the I-15 in the City's SOI.

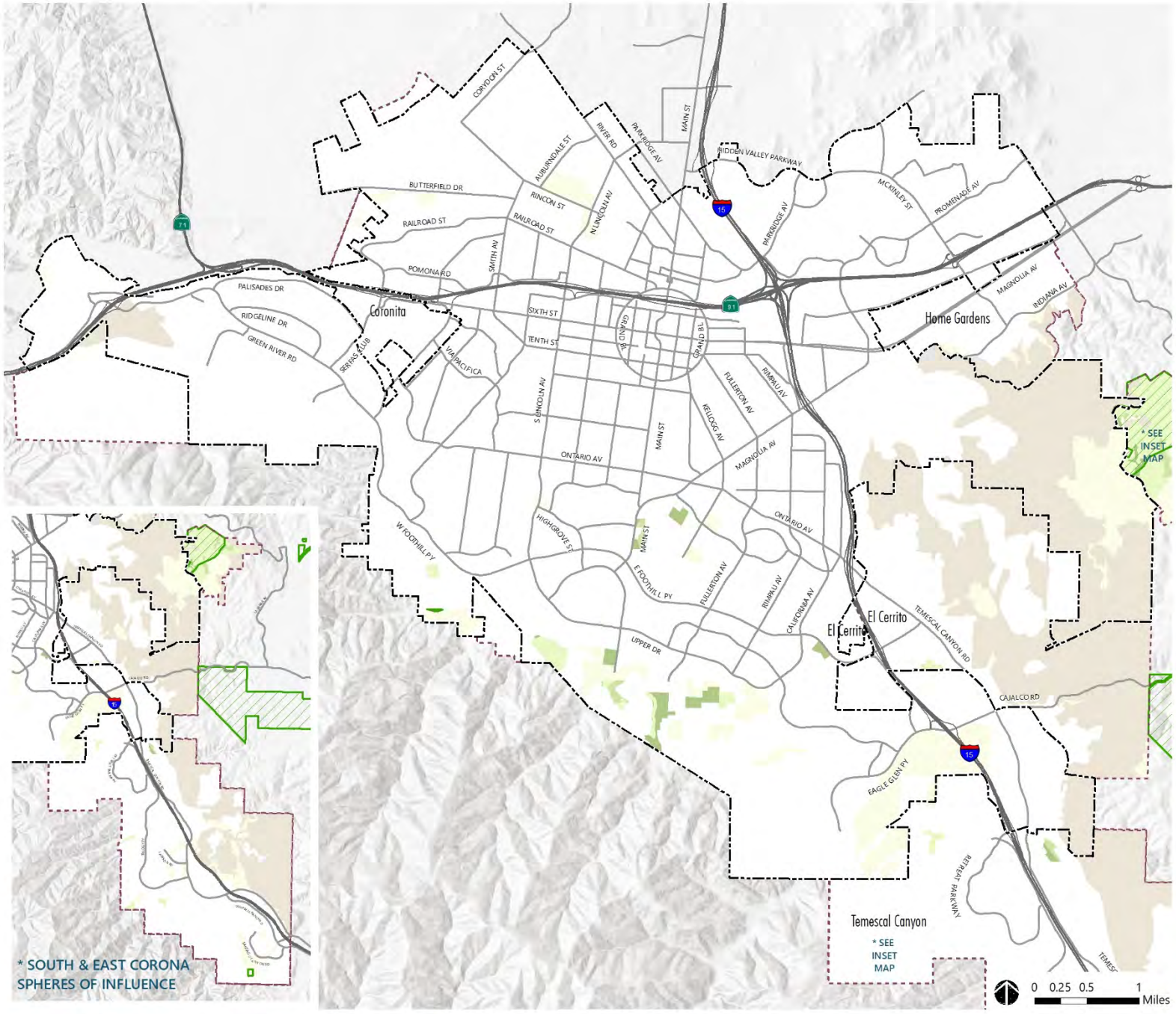


Figure 4-4 Agricultural Resources

Legend

Farmland Type

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Farmland of Local Importance
- Agricultural Preserves
- City Boundary
- Sphere of Influence Areas

Notes:
On February 22, 2006 the Williamson Act contract was terminated on this APN No. 275-090-001-8 and 275-090-010-6

Source:
County of Riverside 2019

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4.4 VISUAL RESOURCES

Situated in a valley, Corona offers expansive views of the Santa Ana and San Bernardino Mountains and valleys from vantage points throughout the community. Additionally, the Temescal Wash and other key waterways traverse the community. This interplay of mountains, valleys, and plains creates a visually dynamic landscape with ample visual resources. This section describes and analyzes the visual resources in the City of Corona.

4.4.1 Regulatory Framework

Visual resources in Corona are regulated primarily through the California Department of Transportation (Caltrans) (for highways), the Riverside County General Plan, and the Corona General Plan and Municipal Code. Key state and local regulations follow.

Caltrans Scenic Highway Program

In 1963, California's Scenic Highway Program was created to preserve and protect the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing this program are in the Streets and Highways Code §§ 260 to 2684 and Caltrans oversees the program. Caltrans defines a scenic highway as any freeway, highway, road, or other public right-of-way that traverses an area of exceptional scenic quality. Suitability for designation as a State Scenic Highway is based on three criteria described in Caltrans's Guidelines for Official Designation of Scenic Highways (2008):

- **Vividness.** The extent to which the landscape is memorable. This is associated with the distinctiveness, diversity, and contrast of visual elements.
- **Intactness.** The integrity of visual order and extent to which natural landscape is free from visual intrusions (e.g., buildings, structures, equipment, grading).
- **Unity.** The extent to which development is sensitive to and visually harmonious with the natural landscape

Riverside County General Plan

The Riverside County General Plan includes land use policies that help to preserve scenic resources and visual quality. Although these policies would not generally apply to development within the City, development in the SOI areas would occur under the County's policy framework; consequently, edge conditions of the urban areas would be affected, and scenic resources, such as mountain foothills outside of the City (but within City viewsheds) would be similarly affected. Relevant County policies generally emphasize concentrating growth near or within existing urban boundaries; permanently preserving important natural and scenic resources; incorporating open space within urban areas; ensuring compatibility of historic and new development; conserving view corridors, skylines, and scenic vistas; and imposing restrictions on development activities that may adversely affect scenic resources. The Temescal Canyon Area Plan contains additional policy guidance for Corona's SOI.

Corona 2004 General Plan

Corona's general plan vision recognizes the importance of the beautiful natural setting in the community and the importance of creating connections between the built and natural environment to increase opportunities for enjoyment by residents. Recognizing the importance of views, the existing Corona General Plan contains a Visual Resources component that identifies goals and policies to preserve significant hillsides, valley lands, floodplains, and other aesthetic view corridors or view sheds.

Specific goals and policies include:

» **Goal 10.22.** Develop and implement land use controls that preserve significant visual resources from potential loss or disruption.

- **Policy 10.22.1.** Create unobstructed view corridors or view sheds of the San Bernardino, Santa Ana and San Gabriel Mountains, the Chino and La Sierra Hills, and other significant natural features from public spaces.
- **Policy 10.22.4.** Require that projects be designed and sited to maintain the natural topographic, physiographic, and aesthetic view shed characteristics of those features.

» **Goal 10.23.** Maintain, establish, develop, and protect the City's highways and corridors for scenic purposes.

- **Policy 10.23.1.** Review and update the City's Scenic Highway Plan regularly in order to keep visual resources associated with the City's highways and roadways current.
- **Policy 10.23.2.** Regulate new development through provisions that require an analysis of impacts of development on the quality of the City's designated highways and corridors.

Corona Municipal Code

The City's Municipal Code (Title 17.59, Hillside District) is intended to develop and implement land use controls that preserve significant visual resources from potential loss or disruption. This goal can be achieved through the following policies:

» Encourage development clustering, particularly on the most gently sloping portions of the site, which contributes to the provision of view corridors.

» Encourage development design that reflects the land's distinct environmental and topographical features while ensuring maximum safety from wildfire hazards.

» Encourage innovative architectural, landscaping, circulation, and site design.

» Discourage mass grading of large pads and excessive terracing except where soil stability dictates grading and recompaction for public safety.

» Provide for safe circulation of vehicular and pedestrian traffic to and within hillside areas and provide adequate access for emergency vehicles.

4.4.2 Existing Conditions

Corona's visual resources include the mountains and canyons that surround and frame the community, unique landforms or hillsides, undisturbed natural areas (riparian areas, oak woodlands, etc.), scenic highways and roadways, and prominent views from vantage points throughout the city. These resources are described below.

Scenic Mountain Views

The San Bernardino Mountains are north of the City. The play of light and shadow changes throughout the day, and this effect is enhanced by the highly textured slopes, which are generally covered by low scrub but are dramatically punctuated by large bedrock outcrops and small stands of oak trees or solitary trees. To the west and south are the Chino Hills and the Santa Ana Mountains. To the east are low hills that complete the feeling of enclosure. The Cleveland National Forest is composed of primarily evergreen native chaparral and is considered a major scenic resource. The surrounding mountains are the dominant natural feature in most views, providing a dramatic visual contrast to the flat topography within the City.

The mountains also frame views of the City from major entry points along SR-91 to the east and west and I-15 from the north and south. The effect is particularly striking on the eastbound approach into the City from SR-91—the freeway runs through the Santa Ana Canyon, and its view shed near the western portion of the City is bounded by the Chino Hills on the north and the foothills of the Santa Ana Mountains on the south, with the narrow gap between these hills at the westernmost portion of the City framing the first visual impression of the City. The Chino Hills then turn abruptly northward, and the Santa Ana Mountain foothills trend to the southeast, and the gap between the two frames a wide vista that includes the Prado Basin and the City, with the San Bernardino foothills as a backdrop.

Additional county and state highways provide exceptional views of the City, its hillsides, and environs. SR-91 meanders through the Santa Ana Canyon from the I-15 to SR-55 and provides view of the Cleveland National Forest to the south and Chino Hills to the north. I-15 extends south through Temescal Canyon between the Cleveland National Forest and Gavilan Plateau, providing panoramic views of the valley floor and surrounding hills. Cajalco Road, which extends eastward from Temescal Canyon to Mead Valley over the Gavilian Plateau is also eligible for designation as a county scenic corridor.

Much like the grandeur of the Santa Ana Canyon entrance to Corona, another significant view of Corona is provided from I-15 north of the City as it descends from the San Bernardino Mountains and the Norco Hills and provides a grand entrance into Corona. The breadth and width of the City is visible to motorists, and this view is particularly beautiful at night with the City lights as a backdrop and on clear days when views are unimpeded by weather. For hikers, significant views of the City are available from many ridges and peaks surrounding the City as well as within the canyons of the surrounding mountain ranges.

Scenic Highways and Corridors

The Scenic Highway Plan is a composite of various networks and systems, such as vistas, activity centers, corridors and pathways, edge areas, and entry and approach areas. It provides for the establishment, development, and protection of the City's highways and corridors for scenic purposes. Listed in Table 4-4 and shown in Figure 4-5 are the scenic corridors in Corona and SOI. The plan includes the following:

- **Scenic corridors.** Visible land area outside the highway right-of-way; generally described as the view from the road.
- **Rural designated scenic highway.** A defined corridor within which natural scenic resource and aesthetic values are protected and enhanced.
- **Urban designated scenic highway.** A route that traverses a defined visual corridor that offers an unhindered view of attractive urban scenes.
- **Unique views of a scenic highway.** Views for highway users, visual relief from urban development, city identification, and accents to entranceways, etc.

Table 4-4 Scenic Highways and Corridors in Corona

Scenic Corridors	Location
Grand Boulevard	Views of the city's historic core, particularly historic residential estates along the edge of the Circle, and mature trees in the parkway
Main St, from 3rd St to southern terminus	Views of the city's historic core, Santa Ana Mtns to the west and south, and San Bernardino Mtns to the east
Ontario Avenue, from Mangular to State St	Views of the Santa Ana Mountains to the west and the low foothills of the San Bernardino Mountains to the east
Chase Dr from Foothill Pkwy to Spring Meadows Dr 1	Views of the Santa Ana Mountains to the west and the low foothills of the San Bernardino Mountains to the east
Foothill Pkwy, Paseo Grande to Bedford Canyon Rd 2	Views looking north to the Prado Basin and hills and valleys leading toward the San Bernardino Mtns in the north and east
Magnolia, from Ontario Ave to Rimpau Ave	Views of the Santa Ana Mountains and the narrow pass between the San Bernardino Mountain foothills
Green River Rd, SR-91 to Palisades; Palisades Dr, from Green River to Serfas Club1	Views of a narrow canyon.
Eagle Glen Pkwy, from I-15 to southern terminus1	Views of the City from the top of the east slope of Eagle Glen.
State Routes 71	Traverses on the east side of the Chino Hills, offering view of preserved hillsides on western edge of Chino Hill States Park
SR-91 and I-15	The SR-91 offers views of the Santa Ana Canyon (SR-91) and the Norco/Corona Hills; I-15 offers view of Temescal Valley
Cajalco Road	A County-eligible scenic corridor that extends eastward from the I-15 at the City's border up to the Gavilan Plateau.
Notes: 1. New scenic corridors	

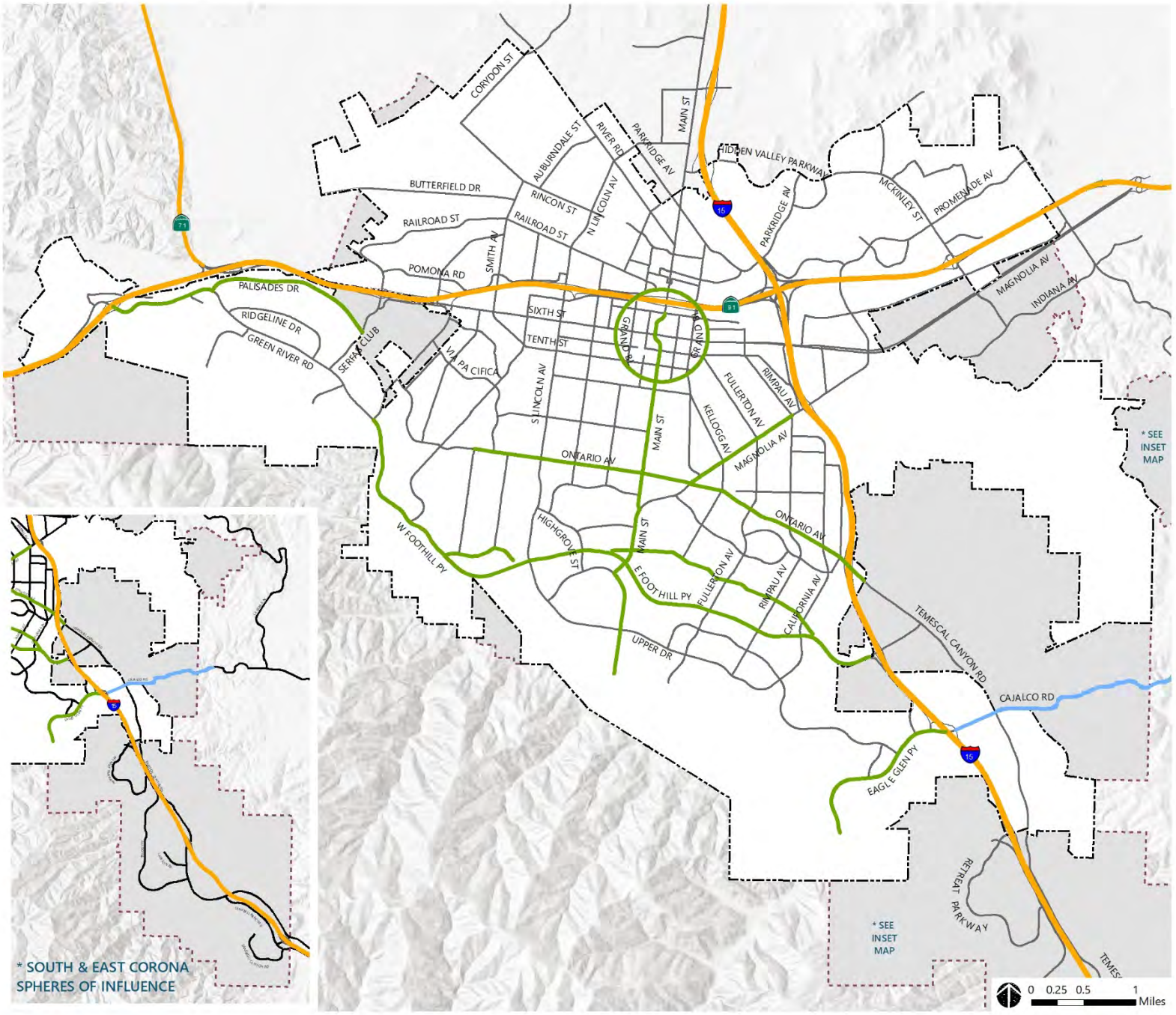


Figure 4-5 Scenic Highways and Corridors

Legend

- City Designated
- County Eligible
- State Eligible
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona General Plan, 2003; Caltrans, 2016
Riverside County General Plan, 2015;
PlaceWorks, 2019

CORONA General Plan

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Prominent Scenic Vistas

Corona benefits from a wide variety of scenic vistas. The wide-open vistas are associated with natural features that dominate the visual image of the City. Internally, the visual elements of major arterials, such as Grand Boulevard, provide unique vistas that characterize individual neighborhoods. Significant vistas include:

- The Prado Basin views from Sierra del Oro, which encompass the basin on the south and canyon areas on the west.
- The view south to the Santa Ana Mountains from the I-15/SR-91 freeway interchange.
- The southern view of the foothills from major north-south streets south of Ontario Avenue.
- The views from the higher elevations south of Ontario Avenue, which encompass panoramic views to the north and the San Gabriel Mountains.

Eagle Glen in eastern Corona provides one of the best views in the City. Eagle Glen Parkway runs along the top of the west slope of Eagle Glen. Another scenic road is Palisades Drive/Green River Road south of the SR-71/SR-91 interchange. This corridor passes through a narrow canyon slot. Views from South Corona, including Ontario Avenue and Foothill Boulevard that traverse the higher slope areas, provide views looking north. This includes the Prado Basin on the west and the hills and valleys leading toward the San Bernardino Mountains in the north and east.

Residents who live on the urban/chaparral interface often have direct canyon and mountain views from their residences. Residents who live north of the airport and to the east of Prado Basin in northwest Corona have views into the basin and further south to the mountains behind the City. The Prado Basin is also dramatic and densely covered by trees adapted to its moist environment. Its green mass is best seen from Sierra del Oro, Highway 71 near its intersection with SR-91, and from the industrial and residential areas flanking the basin in the northwest quadrant of the City.



4.5 WATER RESOURCES

This section describes surface water and groundwater resources in Corona and its SOI, including regulatory framework, existing conditions, and various issues and opportunities for the general plan. Additional information on water supply and management is in Chapter 3, *Infrastructure, Public Services, and Facilities*.

4.5.1 Regulatory Framework

Water resources in Corona are governed by a complex range of federal and state laws and local regulations. A sample of these laws and regulations are summarized below.

Federal Clean Water Act

The federal Clean Water Act (CWA) of 1972 establishes the basic structure for regulating the discharge of pollutants into the waters of the nation. The CWA is intended to restore, maintain, and preserve the integrity of the nation's waters. It regulates direct and indirect discharge of pollutants, sets water quality standards for all contaminants in surface waters, and makes it unlawful for any person to discharge any pollutant from a point source into the nation's waters unless an appropriate permit is obtained. The CWA mandates permits for wastewater and stormwater discharges and point sources; requires states to establish site-specific water quality standards for navigable bodies of water; and regulates other activities that affect water quality. The CWA is the source for state agencies and laws that are intended to improve the nation's waters in California.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) was a groundbreaking legislative initiative that established a framework for sustainable, local groundwater management. The SGMA was passed to require groundwater-dependent regions to halt overdraft and bring basins into balanced levels of pumping and recharge. To achieve this goal, the SGMA requires the formation of local groundwater sustainability agencies that must assess conditions in their local water basins and adopt locally based management plans to ensure that water basins are operated within their sustainable long-term yield. The act provides substantial time—20 years–for the agencies to implement plans and achieve long-term groundwater sustainability. Agencies responsible for high- and medium-priority basins must adopt groundwater sustainability plans within 5 to 7 years, depending on whether the basin is in critical overdraft.

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code §§ 13000 et seq.) is the basic water quality control law for California. Under this act, the State Water Resources Control Board has been delegated control over state water rights and water quality policy and the authority to issue National Pollutant Discharge Elimination System permits. The State Board, through its nine Regional Water Quality Control Boards, carries out the regulation, protection, and administration of water quality in each region. Each regional board adopts a Water Quality Control Plan (or Basin Plan). The

Santa Ana River Basin Plan was adopted in 1995. This Basin Plan provides policy and regulatory direction on the beneficial uses of the state waters in Region 8, describes the water quality that must be maintained to support such uses, and provides programs, projects, and other actions necessary to achieve the standards.

National Pollutant Discharge Elimination System

The federal Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) program as a key tool for maintaining the quality of surface rivers and groundwater basins. The NDPES establishes requirements for the discharge of urban runoff from Municipal Separate Storm Sewer Systems (MS4), which are ditches, curbs, gutters, storm sewers, and similar means of collecting or conveying runoff that are not connected with a wastewater collection system or treatment plant. The State Water Resources Board approved a MS4 permit for Riverside County (Order No. R8-2010-003), of which Corona and other cities in the county are co-permittees. Pursuant to the 2010 MS4 Permit, each co-permittee was required to update and implement a drainage area management plan for its jurisdiction as well as local implementation plans, which describe the co-permittee's urban runoff management programs for existing and proposed dischargers in the jurisdiction.

California General Plan Law

The California Government Code § 65302(d) requires that comprehensive general plans include a conservation element for the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The portion of the conservation element that addresses waters must be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared

Because water resources are related to additional natural resource conservation and management issues, the conservation element may also address other water resource topics:

- The reclamation of land and waters.
- Prevention and control of the pollution of streams and other waters.
- Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.
- Prevention, control, and correction of the erosion of soils, beaches, and shores.
- Protection of watersheds to restore and maintain the quality and sufficiency of water resources.
- Waterways, flood corridors, riparian habitats, and land that may accommodate floodwater for groundwater recharge and stormwater management.

Riverside County General Plan

The Riverside County General Plan, Multipurpose Open Space Element, provides general guidance with respect to water resources in Corona's SOI. Beyond water supply, demand, and quality, the General Plan offers an integrated water resources management approach, defined as a systematic process for the sustainable development, allocation, and monitoring of water resource use in the context of social, economic, and environmental objectives. Specific topics include water supply and conveyance, water conservation, watershed management, water quality, groundwater recharge, floodplain and riparian area management, and wetlands.

The Temescal Canyon Area Plan also has policies to address water resource management in the City's SOI. The TCAP calls out the Santa Ana River Basin and Temescal Wash as special focus areas, seeking to preserve the attributes of these water resources. The TCAP provides a special Open Space-Water land use designation for these resources. The policies in the TCAP are abbreviated, but they still advocate managing these resources in accordance with the Floodplain and Riparian Area Management and Wetland sections of the Multipurpose Open Space Element; the Open Space, Habitat, and Natural Resource Preservation section of the Land Use Element in the General Plan; and flood/inundation sections of the General Plan.

Corona 2004 General Plan

The 2004 Corona General Plan, Environmental Resources Element, addresses the management of open space and conservation of natural resources such as water resources; soils, plants, and animal; viewscapes; air resources; and energy. Water infrastructure issues are covered under the Public Facilities and Infrastructure chapter of the General Plan, discussed earlier in this technical report.

The 2004 General Plan sets forth 5 goals and more than 30 policies that articulate the City's approach to integrated water resources management. The 5 goals are:

- **Goal 10.1.** Enhance and protect the quality of hydrologic resources and prevent their contamination.
- **Goal 10.2.** Ensure sustainable use of finite energy and water resources for the long-term use of residents and visitors of Corona.
- **Goal 10.3.** Ensure that groundwater resources are maintained and groundwater is recharged .
- **Goal 10.4.** Ensure that floodplain and riparian area resources are managed and maintained.
- **Goal 10.5.** Ensure that wetland resources are managed and maintained.

Recent legislation (SGMA of 2014) and ongoing concerns over periodic drought demonstrate the importance of addressing water resources in an integrated manner.

4.5.2 Existing Conditions

This section covers the context for integrated watershed planning in Corona, including an understanding of hydrology and water resources in Corona, groundwater management issues, and surface water quality.

Watershed Context

Corona and its planning area are in the central portion of the Santa Ana River Watershed, an expansive rectangular area that extends from Big Bear Lake to the Pacific Ocean. Corona and its SOI overlie the Arlington, Temescal, Bedford, Lee Lake, Coldwater, and Santa Ana Narrows basins. Four washes run generally north to south through the City, mostly confined in concrete-lined channels. However, drainage in southern Corona tends to flow north from the Santa Ana Mountains through a series of open ditches and storm drains, eventually flowing into Temescal Wash, the major watercourse in Corona. Temescal Wash flows from east to west and joins the Santa Ana River at the Prado Dam.

The Santa Ana watershed is divided into subwatersheds based on major tributaries. The City lies in the Middle Santa Ana River and Temescal subwatersheds. The Middle Santa Ana River subwatershed covers an area of 170 square miles that drains westward toward the Santa Ana River. Tributaries include Temescal Creek, Tequesquite Arroyo, Day Creek, and San Sevaine Creek. The Temescal subwatershed covers 250 square miles and includes the area draining into the Temescal Wash, including Wasson Canyon Wash, Arroyo Del Toro, Stovepipe Canyon Wash, Rice Canyon Wash, and Lee Lake. A majority of Corona is within this subwatershed. Drainages in Corona that tie into Temescal Wash are the Arlington Channel, Main Street Channel, Oak Street Drain, Joseph Canyon Wash, and Bedford Wash.

The Middle Santa Ana River subbasin contains 12 management zones: Arlington, Bedford, Coldwater, Elsinore, Lee Lake, Riverside A through F, and Temescal. Corona is in the Bedford, Coldwater, and Temescal zones. The Temescal subbasin underlies the southwest part of the upper Santa Ana Valley. The water-bearing materials are dominantly composed of Holocene alluvium deposited by streams draining the northeast slopes of the Santa Ana Mountains. Primary groundwater recharge is from percolation of precipitation on the valley floor and infiltration of stream flow from tributaries exiting the surrounding mountains and hills. The Bedford subbasin and Coldwater subbasin are in southern Temescal Canyon and are separated by the North Glen Ivy segment of the Elsinore Fault.

The Santa Ana Watershed Project Authority (SAWPA) is tasked, in part, with managing the Santa Ana Watershed. SAWPA was formed in 1968 as a planning agency and reformed in 1972 with a mission to plan and build facilities to protect the water quality of the watershed. It is a joint powers authority and classified as a "special district" in which it carries out functions useful to its member agencies. The Santa Ana Regional Water Quality Control Board is authorized to create a Basin Plan for this area and set forth a variety of regulations to maintain the quality of its surface waters. SAWPA also works with the Santa Ana Regional Water Quality Control Board in implementation projects that support the management of the watershed.

Primary Watercourses and Water Bodies

The City of Corona and its SOI are crossed by more than 50 ephemeral streams that flow from the El Sobrante Hills and Santa Ana Mountains that border the Cleveland National Forest. These streams feed into two major watercourses—the Santa Ana River and Temescal Creek (wash).

Santa Ana River

The watercourses that flow through and collect runoff from Corona are tributaries to the Santa Ana River. Flowing over 100 miles from the San Bernardino Mountains to the Pacific Ocean, the Santa Ana River traverses multiple counties. Near Corona, the river makes its way through the Santa Ana Mountains and flows onto the Orange County coastal plain. The Santa Ana River drains an area of 2,700 square miles before flowing into the Pacific Ocean. The Prado Basin and Santa Ana River are the "receiving waters" of Corona's urban, industrial, and agricultural runoff. A receiving water is defined as a river, lake, ocean, stream, or other body of water into which wastewater or treated effluent is discharged. The river provides water for recreation and for aquatic and wildlife habitat. River flows are also a significant source of groundwater recharge, which provides domestic supplies for more than two million people.

Temescal Creek

Temescal Creek is an intermittent stream fed by at least 50 ephemeral streams that emanate from the Santa Ana Mountains and the Gavilan Hills. It is the principal drainage course in the Temescal Valley, draining an area of 164 square miles (including most of the Lake Mathews area). Spanning 28 miles, from Lake Elsinore to the Santa Ana River, Temescal Creek meanders through Temescal Canyon as a broad, unimproved bank. Spoil pits have been filled with waste silts and clays that form unconsolidated mounds adjacent to Temescal Creek. During flood flows, portions of these mounds erode, contributing to downstream water quality impacts. Channelized, over-steepened banks and placement of fill in the channel and floodplains have contributed to ongoing erosion and increased sediment bed-load downstream, negatively impacting habitat for plants and wildlife.

Lakes and Water Bodies

The City of Corona and its SOI are surrounded by major water bodies, including Prado Reservoir, Lake Mathews, Lake Elsinore, and Corona Lake (also known as Lee Lake). However, most of water bodies in Corona are man-made. Artificial (created) lakes and ponds are present at Lake Temescal (southeast of the interchange of SR-91 and I-15), Border Lake (near Brentwood Park), and at the City's golf courses. Lake Temescal is ringed with riparian vegetation and open water areas, providing cover and foraging habitat for birds and amphibians, including the western pond turtle. Lee Lake is just south of the City's SOI and adjacent to I-15.

Figure 4-6, *Hydrology*, illustrates the general hydrology of the region and City of Corona, including its major water bodies and watershed boundaries.

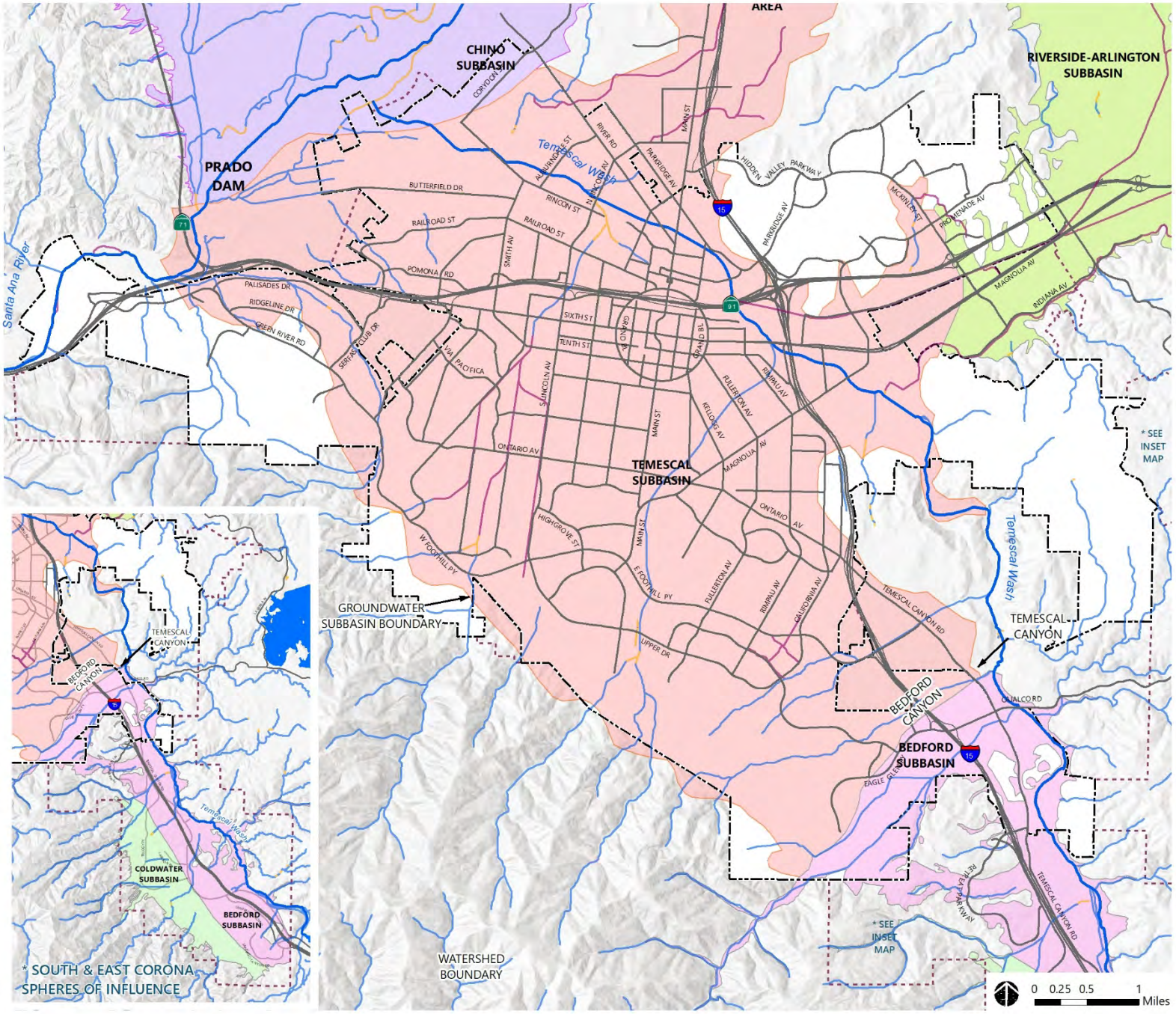


Figure 4-6 Hydrology

Legend

Water Features

- Artificial Drainage Paths
- Canals and Ditches
- Streams and Rivers
- Lake

Groundwater Basins

- Bedford Subsasin
- Coldwater Subbasin
- Chino Subbasin
- Riverside-Arllington Subbasin
- Temescal Valley Subbasin
- City Boundary
- Sphere of Influence Areas

Source:
California Department of Water Resources (CDWR). 2016, Bulletin 118 Groundwater Basins Interim Update; United States Geological Survey (USGS) National Hydrography Database, 2017.

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Surface Water Quality

Protecting surface water quality is mandated by the federal government under the federal Clean Water Act and the California Porter Cologne Water Quality Act. The City of Corona falls under the jurisdiction of the Santa Ana Regional Water Quality Control Board and its Basin Plan, which specifically 1) designates beneficial uses for surface waters and ground waters that are to be protected or restored, 2) sets narrative and numerical objectives that must be met to protect and/or restore the beneficial uses of the waterways and conform to the state's antidegradation policy, and 3) describes implementation programs to protect and/or restore all waters in the region.[10]

The State Water Resources Control Board has identified over two dozen beneficial uses of the nation's waterways, including domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. Such uses may be past, present, or probable future beneficial uses of water. Table 4-5, *Beneficial Uses of Receiving Waters in Corona*, lists the beneficial uses of surface waters that cross Corona. Numeric objectives have been established for various contaminants to maintain the beneficial uses of receiving waters/

Table 4-5 Beneficial Uses of Receiving Waters in Corona

Beneficial Uses of Surface Waters by River	AGR	I-AGR	GWR	I-GWR	IND	MUN	REC1	REC2	RARE	L-WARM	WARM	WILD
Middle Santa Ana River Subwatershed												
• Santa Ana Reach 2	◆		◆				◆	◆	◆		◆	◆
• Santa Ana Reach 3	◆		◆				◆	◆	◆		◆	◆
Temescal Canyon Subwatershed												
• Temescal Creek Reach 1							◆	◆			◆	◆
• Temescal Creek, Reach 2		◆	◆		◆		◆	◆		◆		◆
• Bedford Canyon Creek				◆			◆	◆			◆	◆
• Coldwater Creek Canyon	◆		◆			◆	◆	◆			◆	◆

Sources: Watershed Action Plan Santa Ana Region, Riverside County. January 18, 2017;
California RWQCB, 1995 Water Quality Control Plan for the Santa Ana River Basin (Updated 2016)

Notes:
AGR = Agricultural Supply
I-AGR = Intermittent Ag Supply
GWR = Groundwater Recharge
I-GWR = Intermittent GW Recharge
IND = Industrial Service Supply
MUN = Municipal
REC1 = Water Contact Recreation
REC2 = Non-Contact Water Recreation
RARE = Rare, Threatened, or Endangered Species
WARM = Warm Freshwater Habitat
WILD = Wildlife Habitat

[10] Santa Ana RWQCB, Riverside County Santa Ana Region Watershed Action Plan, September 16, 2016.

Impaired Waterways

The Clean Water Act (§ 303(d)) requires that impaired waterways be identified, and plans devised to restore their beneficial uses. This objective is achieved by limiting the aggregate discharges of individual pollutants so that the total maximum daily load (TMDL) of the water body for each pollutant is not exceeded. Setting limits on TMDLs allows an impaired waterway to be restored so that it can eventually provide and maintain its beneficial uses. Discharges are controlled through permits required for jurisdictions and individual entities that discharge to the waterway.

Once a water body has been listed as impaired on the 303(d) list in accordance with the Clean Water Act, a TMDL for the pollutant of concern must be developed for that water body. A TMDL is an estimate of the daily load of pollutant a water body can receive from point sources (e.g., residential or industrial uses), nonpoint sources, and natural background conditions without exceeding its water quality standard. As shown in Table 4-6, *Impaired Waterways in Corona*, portions of Temescal Creek and the Santa Ana River have been designated as impaired waterways, and TMDLs have been established for different types of pollutants.

Table 4-6 Impaired Waterways in Corona

Surface Waters	List of 303(d) Impairments	Total Maximum Daily Load
Temescal Creek Reach 1	Ph	Pending 2021; TMDL established for all impairments
Santa Ana River, Reach 2	Indicator Bacteria	Pending 2021 TMDL establishment for indicator bacteria
Santa Ana River, Reach 3	Copper, Lead, Pathogens	Approved TMDL for pathogens Pending 2021 TMDL for copper and lead

Sources: 2012 California 303(d) List of Water Quality Limited Segments, 2017

In 2010, the Santa Ana Regional Water Quality Control Board reissued the MS4 stormwater permit to Riverside County, its incorporated cities, and the Riverside County Flood Control District.[11] Under this permit, the co-permittees are required to implement a drainage area management plan and local implementation plan for addressing urban runoff management. Under the City's local implementation plan, land development policies pertaining to hydromodification and low-impact development are regulated for new developments and significant redevelopment projects. The low-impact development hierarchy requires new projects to first infiltrate, then harvest and reuse, then biofilter stormwater runoff from their project sites. The option to be chosen for the development project depends on the site's location in Corona, prevalent soil types, and associated infiltration rates.

[11] WDR Order R8-2010-0033 and NPDES Permit No. CAS618033, Issued 2010

Groundwater Quality

As mentioned earlier, Corona is in the Bedford, Coldwater, and Temescal management zones of the Middle Santa Ana River subbasin. Groundwater from these three basins has similar inorganic chemistry, primarily a sodium and calcium-bicarbonate water type. Variability of water type between the three basins is likely due to variations in the geology surrounding them.

The Middle Santa Ana River subbasin is noted for elevated concentrations of perchlorate, nitrate, and salt in the groundwater.[12] Primary contaminants of concern are described below:

- **Inorganic Contaminants.** In 2006/2007, the USGS analyzed the water quality of aquifers serving 90 percent of California's population, including wells in the Corona region, under its Groundwater Ambient Monitoring and Assessment Program.[13] This program covered the Upper and Middle Santa Ana watersheds. Findings from sampling 117 dry wells indicated high concentrations of inorganic compounds in the Middle Santa River subbasin. These findings were further corroborated in later studies, discussed below.
- **Nitrate.** One such inorganic contaminant is nitrate, primarily from fertilizers, septic systems, and manure storage or spreading. In the Corona area, the primary areas of nitrate degradation are areas formerly or currently overlain by the citrus and dairy industries. Nitrate concentrations in groundwater have increased slightly or remained relatively constant. Short-term exposure to nitrate-impacted water can have adverse health effects on infants.
- **Total Dissolved Solids.** Historical practices have left a legacy of salts in the soils overlying groundwater aquifers. TDS impacts of agriculture on groundwater originate from fertilizer use on crops, consumptive use, and dairy waste disposal. High TDS concentrations are also due to recharge of saline water from storm flows, urban runoff, imported water, and incidental recharge. As part of the Basin Plan, a Total Dissolved Solids/Nitrate Management Plan was developed to address salt loadings from various land uses into the groundwater basins.
- **Perchlorate.** Perchlorate in groundwater has been attributed to its use as an oxidizer in solid propellants for rockets, fireworks, and other explosives. In Corona's case, perchlorate has been attributed to Chilean caliche, a common nitrate fertilizer for citrus production. Perchlorate exposure above safe levels impairs thyroid functioning the production of hormones necessary for normal human development.

[12] SAWPA and DBS&A. Recomputation of Ambient Water Quality in the Santa Ana River Watershed for the Period 1996 to 2015. Retrieved October 2017. Accessed at: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/docs/SMP/2017/AWQ-Tech-Memo_9-22-2017.pdf

[13] USGS. Status of Groundwater Quality in the Upper Santa Ana Watershed, California GAMA Priority Basin Project (2012). Retrieved from https://pubs.usgs.gov/sir/2012/5052/pdf/sir20125052.pdf

Several local studies were conducted in the past decade to assess the level of contaminants in the groundwater, specifically total dissolved salts and nitrates. In 2008, a groundwater management plan was prepared for Corona in accordance with AB 3030 to address the management of the three groundwater basins underlying the City (Temescal, Coldwater, and Bedford). SAWPA's Basin Monitoring Program Task Force is responsible for preparing biennial surveys on the quality of groundwater in the region, most recently in 2017.

Table 4-7, *Groundwater Basin Water Quality Concerns*, shows the levels of contaminants in the City's groundwater basins.

Table 4-7 Groundwater Basin Water Quality Concerns

SubBasin	Total Dissolved Solids (mg/L)		Nitrate as NO_3 (mg/L)	
	1997-2015 Range[1,2]	2015 Concentration[2]	1997-2015 Range[1,2]	2015 Concentration[2]
Temescal	307–1,950	810	0.3–12.4	10.9
Bedford	630	630	0.4–6.5	N/A
Coldwater	300–650	460	1.5–2.8[2]	2.2

Sources:

1. Todd Engineers and AKM Consulting Engineers. City of Corona, AB3030 Groundwater Basin Management Plan, June 2008.

2. SAWPA. Recomputation of Ambient Water Quality in the Santa Ana River Watershed for the period of 1996 through 2015, September 2017. Accessed at https://www.waterboards.ca.gov/

Compared to standards established for the region's waters, the numeric levels of TDS in the Temescal basin exceed the recommended 500 mg/L TDS for potable water, the recommended 700 mg/L TDS for irrigation use, and the water quality objective of 770 mg/L Temescal basin nitrate concentrations had a wide range in values and exceed the 45 mg/L nitrate (as NO_3) level for potable water and the water quality objective of 10 mg/L. The City's Groundwater Management Plan and SAWPA studies provide further information on the status of water quality in Corona.

The City relies on a mix of groundwater desalters, treatment plants, and the brine lines for reducing and managing salt loads in the region. The Temescal Desalter produces 10 mgd of water, and the Arlington Desalter produces 7.2 mgd. The City's treatment plants were discussed in Chapter 3 of this background report. Finally, the State Water Board also adopted a TDS/Nitrogen management plan, included as part of the Santa Ana Region Basin Plan, to address historical sources of water contamination and protect beneficial uses of surface and groundwater.

Groundwater Management

Groundwater management and sustainability are tied to the long-term health of the many groundwater basins in California. The California Department of Water Resources manages the California Statewide Groundwater Elevation Monitoring (CASGEM) program. CASGEM tracks the health and groundwater-level of California's 515 basins and includes programs to manage these basins. It also publishes a list of basin prioritizations (low, medium, and high priority) to determine how resources should be allocated to manage various groundwater basins. Basins of medium and high priority are required to develop management plans.[14]

Within Corona, the Temescal basin is designated medium priority by CASGEM. The Elsinore basin, which includes the Coldwater and Bedford basins underneath the City, is designated as a high priority. The City, Temecula Valley Water District, and Elsinore Valley Municipal Water District are proposing a new groundwater basin boundary for purposes of the SGMA. The new boundary would designate the Coldwater-Bedford basin as a combined groundwater basin, separate from the larger Elsinore Basin. The change would align the basin boundaries with the areas' alluvial deposits mapped by USGS and improve water management activities in the basin area.

The City of Corona has historically relied on local groundwater for approximately one-half of its total water supply, and this reliance will continue into the future. None of the three basins providing groundwater supply to the City are adjudicated, and the Temescal basin is in a moderate overdraft condition. Therefore, the City prepared a groundwater management plan in 2008 to assist with 1) operating the Temescal, Bedford, and Coldwater basins in a sustainable manner and 2) increasing the reliability of the water supply. The plan contains 25 groundwater management strategies, including enhanced recharge. The City is also preparing a groundwater management plan for the Temescal basin to address state law mandates.[15]

The 2008 groundwater management plan indicated that the annual decline in groundwater storage in the Temescal basin is 8,800 acre-feet per year (afy). The City recognizes that artificial recharge can be used to mitigate overdraft in the Temescal basin, improve groundwater quality, and potentially reduce the City's reliance on imported water.[16] The City's groundwater production goal for the Temescal basin is 22,800 afy for potable use by 2035 without incurring overdraft. The minimum recharge goal for the recharge master plan is 4,000 afy, which includes a safety factor of 33% (3,000 afy to cover average annual overdraft plus a 1,000 afy safety factor). The City is proceeding with an option to divert flows into the Lincoln/Cota Ponds.

[14] California Statewide Groundwater Elevation Monitoring (CASGEM) Program, California Department of Water Resources. Accessed at: http://www.water.ca.gov/groundwater/casgem/

[15] City of Corona Groundwater Master Plan, prepared for the City of Corona, AKM Consulting Engineers, 2008.

[16] Recharge Master Plan for the Temescal Basin, prepared for the City of Corona, Wildermuth Environmental, 2013.

4.6 AIR RESOURCES

This section addresses regulatory context for air quality in Corona and describes existing conditions for air resources. For information on the environmental justice implications of air quality, refer to Chapter 6, *Health and Wellness*.

4.6.1 Regulatory Framework

This section provides an overview of the federal, state, and local laws and regulations intended to control and enhance air quality. This regulatory framework is potentially applicable to the proposed General Plan Update.

Federal and State Laws

Federal Clean Air Act

The federal Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The CAA is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes the EPA to establish ambient air quality standards (AAQS) to protect public health by regulating the emissions of hazardous air pollutants. The CAA requires that states develop state implementation plans to achieve the minimum federal standards. The CAA allows states to adopt more stringent standards or include other pollutants, which occurred with the passage of the California Clean Air Act in 1988.

California Clean Air Act

The California Clean Air Act requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. California and the federal government have established AAQS for seven "criteria" air pollutants—ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse and fine inhalable particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb). The state has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The AAQS are the levels of air contaminants required to protect the health and safety of people, particularly "sensitive receptors" most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous activity.

Tanner Air Toxics Act and Hot Spot Program

The California Air Resources Board (CARB) is authorized to identify a substance as a toxic air contaminant (TAC) if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health. California regulates TACs primarily through the Tanner Air Toxics Act and AB 2588 (Air Toxics "Hot Spot" Act). Once a TAC is identified, CARB adopts an "airborne toxics control measure" for emitting sources and requires reduction measures or best available control technology to mitigate impacts. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, must use best available technologies to reduce the risk.

Regional Regulations

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for improving air quality in the South Coast Air Basin (SoCAB) and ensuring that National and California AAQS are attained and maintained. SCAQMD is responsible for controlling emissions primarily from stationary sources of air pollution by setting standards, rules, and regulations and through its permitting and enforcement process. Standards and rules address issues such as visible emissions, (Rule 401), public nuisances (Rule 402), fugitive dust (Rule 403), and many others.[17] SCAQMD issues source-specific standards of performance for industries or manufacturing processes known to emit certain pollutants. Finally, SCAQMD uses its permit and enforcement authority to regulate sources and ensure compliance.

On the regional level, SCAQMD prepares the region's air quality management plan (AQMP) in coordination with the Southern California Association of Governments.[18] The AQMP is the region's blueprint for achieving air quality standards and healthful air. The plan seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The AQMP also contains an appendix on the health effects of ambient air pollutants. Overall, the 2016 AQMP proposes a range of emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from aircrafts, locomotives, and ocean-going vessels.

Corona 2004 General Plan

The City recognizes the importance of ongoing land use planning, development, and public education measures to reduce air pollution. The 2004 Corona General Plan addressed air quality concerns as part of its Environmental Resources Element. The Element contains the following 4 goals to improve the overall air quality in Corona:

- **Goal 10.18.** Improve air quality conditions within the Corona Planning Area by controlling point sources, reducing vehicle trips, and striving to achieve attainment of ozone, nitrogen dioxide, carbon monoxide, and sulfate standards as enforced by the South Coast Air Quality Management District.
- **Goal 10.19.** Reduce vehicle trip generation within Corona and its Planning Area through transit, shuttle, carpool, and cycling facilities.
- **Goal 10.20.** Reduce criteria air pollutant emissions through more efficient land use planning and construction practices.
- **Goal 10.21.** Reduce air quality degradation through energy conservation.

These goals are supported by 21 policies in the general plan. Air quality issues are further discussed in Chapter 6, *Health and Wellness*, of this report.

[17] Accessed at: https://www.arb.ca.gov/drdb/sc/cur.htm.
[18] South Coast Air Quality Management District, Air Quality Management Plan, 2016.

4.6.2 Existing Conditions

This section presents data on air quality in Corona, including information on common pollutants of concern, toxic air contaminants, and sensitive receptors. The General Plan EIR provides additional technical information regarding these topics.

Meteorology and Climate

The City of Corona Planning Area is in northwestern Riverside County, in the South Coast Air Basin (SoCAB). The air basin is 6,600 square miles encompassing the nondesert portions of Riverside, Los Angeles, and San Bernardino counties and all of Orange County. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, the SoCAB is an area of high air pollution potential.

The climate of the SoCAB is dominated by the strength and position of the semipermanent high-pressure center over the Pacific Ocean. It creates the climate conditions typical of southern California, (e.g., relatively cool summers, mild winters, infrequent rainfall, cool daytime breezes, comfortable humidity, and sunshine). Periods of extremely hot weather, winter storms, or Santa Ana wind conditions interrupt this pattern. Unfortunately, the same atmospheric processes that create the desirable living climate also restrict the dispersal of air pollution.

The location of the Planning Area, east of the Chino Hills and Santa Ana Mountains, insulates it from the moderating effect of the ocean. Temperatures and precipitation in Corona vary more dramatically than coastal areas of the air basin. The average low temperature is reported at approximately 65°F in January, and the average high is 92°F in July (Western Regional Climate Center, 2017). Rainfall is highly variable and confined almost exclusively from November through April. Rainfall averages 12.7 inches annually according to the Corona, California, Monitoring Station (ID 042031).

Wind patterns across the SoCAB are characterized by westerly or southwesterly onshore winds during the day and by easterly or northeasterly breezes at night. Wind speed is somewhat greater during the dry summer months than the winter season. Between periods of wind, periods of air stagnation may occur and is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB, combined with other meteorological conditions, can result in very strong, downslope Santa Ana winds.

The mountain ranges to the east affect the transport and diffusion of pollutants by inhibiting their eastward (horizontal) transport. In conjunction with these wind patterns, temperature inversions control the vertical depth through which pollutants are mixed. The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and generally good air quality in the winter (SCAQMD 2005). Air quality in the SoCAB generally ranges from fair to poor, and the entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (SCAQMD 2005).

SoCAB Attainment Status

The AQMP provides the framework for air quality basins to achieve attainment of the California and National AAQS through the State Implementation Plan. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the ambient air quality standards. Severity classifications for nonattainment are marginal, moderate, serious, severe, and extreme, according to CARB definitions.[19]

The four attainment classifications are described below:

- **Unclassified:** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** A pollutant is in attainment if its AAQS was not violated in the area during the past three years. Nonattainment has multiple levels.
- **Nonattainment:** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 4-8, *Attainment Status of Criteria Pollutants in the South Coast Air Basin*, which includes Riverside County. The SoCAB region has generally achieved federal and state attainment status for CO, NO_2, SO_2, and lead. Progress is needed for ozone and particulate matter.

Table 4-8 Air Quality Attainment in South Coast Air Basin

Pollutant	Compliance Status	
	State Standard	Federal Standard
Ozone – 1 hour	Extreme Nonattainment	No Federal Standard
Ozone – 8 hour	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment1
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (LA County only
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board, 2016.

[19] Air Quality Standards and Area Designations, 2017, https://www.arb.ca.gov/desig/desig.htm.

Air Pollutants of Concern

Air pollutants emitted by stationary and mobile sources or formed through chemical and photochemical reactions in the atmosphere are of concern in California and the southern California region. Table 4-9, *Common Air Pollutants, Causes, and Effects*, highlights each air pollutant, its source, and health effects.

Table 4-9 Common Air Pollutants, Causes, and Effects

Pollutant	Causes	Examples of Health Effects
Ozone (O_3)	Formed when reactive organic gases (ROG) and nitrogen oxides react in sunlight. ROGs come from any source that burns fuels as well as solvents, oil processing, and pesticides.	Breathing difficulties, lung tissue damage, damage to rubber and some plastics
Respirable Particulate Matter (PM_{10})	Road and windblown dust and construction sources (fireplaces). Can be formed from other pollutants. Also caused by incomplete combustion of any fuel.	Increased respiratory disease, lung damage, cancer and premature death, reduced visibility, surface soiling
Fine Particulate Matter ($PM_{2.5}$)	Fuel combustion in vehicles, equipment, and industrial sources; outdoor burning. Also formed from reaction of pollutants such as NOx, SOx, and organics.	Increases respiratory disease, lung damage, cancer, premature death, reduced visibility, surface soiling
Carbon Monoxide (CO)	Any source that burns fuel, including automobiles, trucks, heavy construction, agricultural/farming equipment, and residential heating units.	Chest pain in heart patients, headaches, and reduced mental alertness
Nitrogen Dioxide (NO_2)	Any source that burns fuel, including automobiles, trucks, heavy construction, agricultural/farming equipment, and residential heating units.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain
Lead (Pb)	Metal smelters and processing, resource recovery, leaded gasoline, deterioration of lead paint (banned since 1978 but present in older homes), and certain mining activities.	Learning disabilities, brain and kidney damage, particularly among younger children
Sulfur Dioxide (SO_2)	Primarily industrial activity that process materials that contain sulfur, generate power from coal, oil or gas that contains sulfur, and chemical manufacturing.	Increases lung disease, wheezing, shortness of breath and breathing problems for asthmatics
Sulfates	See SO2. Emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur.	Breathing difficulties, aggravates asthma, and reduced visibility. Can also harm environment.
Hydrogen Sulfide (H_2S)	Geothermal power plants, petroleum production and refining, sewer gas	Nuisance odor, headache and breathing difficulties at higher concentrations

Source: California Air Resource Board, ARB Fact Sheet: Air Pollution Sources, Effects and Control, 2017. Accessed at https://www.arb.ca.gov/research/health/fs/fs2/fs2.htm

Ambient Air Quality

Existing ambient air quality, historical trends, and projections in Corona are best documented by measurements made by the SCAQMD. The project site is in Source Receptor Area (SRA) 22–Riverside Valley (Corona/Norco Area). The air quality monitoring station closest to the project site is the Norco Monitoring Station. This station only monitors PM_{10}. Additional data for O_3, NO_2, CO, SO_2, and $PM_{2.5}$ is supplemented by the Riverside-Rubidoux Monitoring Station.

Table 4-10, *Ambient Air Quality Monitoring Summary*, presents five years of monitoring data (2012-2016). Air quality data show recurring violations of the state and federal ozone standards, state PM_{10} standard, and the federal $PM_{2.5}$ standard. The CO, NO_2, and SO2 standards have not been violated during this time period.

Table 4-10 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Exceeded				
	2012	2013	2014	2015	2016
Ozone (O_3)					
State 1 hour ≥ 0.09 ppm (days >threshold)	27	13	29	31	33
State 8 hour ≥ 0.07 ppm (days > threshold)	70	36	66	55	59
Federal 8 hr. ≥ 0.09 ppm (days > threshold)	47	26	41	39	47
Carbon Monoxide (CO)					
State 8 hour ≥ 9 ppm (days > threshold)	0	0	0	N/A	N/A
Federal 8 hr. ≥ 9 ppm (days > threshold)	0	0	0	N/A	N/A
Nitrogen Dioxide (NO_2)					
State 1 hour ≥ 0.18 ppm (days > threshold)	0	0	0	0	0
Federal 1 hr. ≥ 0.10 ppm (days > threshold)	0	0	0	0	0
Sulfur Dioxide (SO_2)					
State 24 hour ≥ 0.04 ppm (days > threshold)	0	N/A	N/A	N/A	N/A
Federal 24 hr. ≥ 0.14 ppm (days > threshold)	0	N/A	N/A	N/A	N/A
Coarse Particulates (PM_{10})					
State 24 hour ≥ 50 µg/m^3 (days > threshold)	1	2	3	3	0
Federal 24 hr. ≥ 150 µg/m^3 (days > threshold)	0	0	0	0	0
Fine Particulates ($PM_{2.5}$)					
State 24 hour ≥ 0.04 ppm (days > threshold)	N/A	N/A	N/A	N/A	N/A
Federal 24 hr. ≥ 35 µg/m^3 (days > threshold)	7	6	5	9	5

Sources: General Plan, EIR Technical Report.
Notes:
ppm = parts per million; ppb = parts per billion, µg/m3 = micrograms per cubic meter
All data includes exception events such as wildfires.
N/A Data not available.
1 Data includes exceptional events, such as wildfires.

Toxic Air Contaminants

The California Health and Safety Code defines a toxic air contaminant or TAC as an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 U.S. Code § 7412[b]) is a toxic air contaminant. Under state law, CalEPA, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

Regional Studies

The Multiple Air Toxics Exposure Study (MATES) is study on ambient concentrations and potential health risks from air toxics in the SoCAB. In 2008, SCAQMD conducted its third update (MATES III) based on the Office of Environmental Health Hazards Assessment's (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk.[20]

In 2016, SCAQMD released the fourth update, MATES IV. The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to 418 in one million. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to stationary sources, such as refineries, metal processing facilities, gas stations, and chrome-plating facilities. The largest contributor (68 percent) to excess cancer risk was still diesel exhaust. Compared to MATES III, however, MATES IV found a substantial improvement in air quality, decrease in air toxics exposure, and a 57 percent decline in basinwide risk of cancer.[21]

Corona Results

As is the case regionally, the highest cancer risk in Corona is due to vehicle emissions. In Corona and its SOI, the cancer risk is highest in areas along both sides of the SR-91 corridor, between SR-71 and I-15. According to MATES IV, this corridor has an excess cancer risk of 1,034 in one million. The lowest risk is in southwest Corona and near the Cleveland National Forest (221 in one million). In 2015, OEHHA updated its guidelines for estimating cancer risks to account for early life exposures, differences in assumptions on breathing rates, and length of residential exposures. SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher than MATES IV results using the 2015 OEHHA guidance methodology.

[20] SCAQMD, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES III), 2008. http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iii.

[21] SCAQMD, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES IV), 2015.

Sensitive Receptors and Mitigations

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. As discussed earlier under the TAC discussion, young children can be significantly impacted from exposure to air pollutants because their lungs are still in the development stage. Other population groups, such as adults with existing health concerns, may also be more severely impacted from air pollution because the pollutant can exacerbate existing health conditions.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are moderately sensitive to air pollution since exercise places a high demand on respiratory functions which can be impaired by air pollution. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent for workers who stay indoors.

To reduce exposure to TACs, CARB developed and approved the Air Quality and Land Use Handbook: A Community Health Perspective (2005) to provide guidance regarding the siting of sensitive land uses in the vicinity of freeways, distribution centers, rail yards, ports, refineries, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. This guidance document was developed to assess compatibility and associated health risks when siting sensitive receptors near existing pollution sources. The key observation in these studies is that proximity substantially increases exposure and the potential for adverse health effects.[22]

Three carcinogenic TACs constitute the majority of known health risks from motor vehicle traffic—diesel participate matter from trucks and benzene and 1,3 butadiene from passenger vehicles. CARB recommendations are based on data that show that localized air pollution exposures can be reduced up to 80 percent by following CARB minimum distance separations. As mentioned earlier, the City of Corona is crossed by multiple high-volume freeways (Highway 71, SR-91, and I-15) and several major arterials, which would contribute (along with other stationary sources) to a higher estimated excess cancer risk than in other locations in the community.

In 2017, CARB provided a supplement to the Air Quality and Land Use Handbook for near-roadway air pollution exposure entitled, Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory.[23] Strategies to reduce exposure include practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution (or the dilution of pollution in the air), or remove pollution from the air. This topic has implications for environmental justice, as discussed later in this report, under Chapter 6, *Health and Wellness*.

[22] CARB, Air Quality and Land Use Handbook: A Community Health Perspective, 2005.
[23] CARB, Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways, 2017.

4.7 BIOLOGICAL RESOURCES

This section outlines the key regulations affecting biological resources in Corona and SOI. This section includes an inventory of protected plants, species, and wildlife and addresses biological resource conservation areas and other biological resource issues.

4.7.1 Regulatory Framework

This section provides an overview of the federal, state, and local regulations and policies that may be pertinent to Corona's general plan update. A detailed listing of all the applicable laws and regulations can be found in the EIR Technical Report.[24]

Federal Clean Water Act

The CWA (33 US Code §§ 1251 et seq.) is the principal federal statute for water quality protection. The CWA requires each state to adopt water quality standards and to submit these standards for approved by the EPA. For point source discharges, the CWA requires states to administer the National Pollutant Discharge Program to restore, maintain, and preserve the integrity of the nation's waters. The CWA regulates direct and indirect discharge of pollutants; sets water quality standards for all contaminants in surface waters; and makes it unlawful for any person to discharge any pollutant into the nation's waters unless a permit is obtained. Typically, states must prepare and implement a total maximum daily load for all waters on the CWA Section 303(d) list of impaired waters.

Federal Endangered Species Act

FESA is intended to protect and conserve any species of plant or animal that is endangered/ threatened with extinction and the habitats in which species are found. Under the FESA, a species listed as federally endangered is one facing extinction throughout all or a significant portion of its geographic range. A species listed as threatened is one likely to become endangered within the foreseeable future. The U.S. Fish and Wildlife Service (USFWS) is the lead agency responsible for implementation. The USFWS maintains a list of endangered species of birds, insects, fish, reptiles, mammals, crustaceans, flowers, grasses, and trees. FESA requires federal agencies, in consultation with the USFWS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act of 1918 prohibits any person, unless permitted by regulations, to "…pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatsoever, receive for shipment,

[24] City of Corona General Plan Update, Biological Resources Technical Report, SWCA, 2017.

transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention … for the protection of migratory birds … or any part, nest, or egg of any such bird" (16 USC § 703). The list of migratory birds includes nearly all bird species native to the United States. The Act also includes parts of birds, as well as nests and eggs. Any activity that would result in the removal of destruction of an active nest would be prohibited.

California Endangered Species Act (CESA)

The CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, plants, and their habitats, either threatened with extinction or experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. The CESA prohibits the taking of state-listed endangered and threatened species of fish, wildlife, and plants and species petitioned for listing (state candidates) at the discretion of the Fish and Game Commission. In addition, some sensitive mammals and birds are protected as Fully Protected Species. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list of species of special concern is noted on the California Department of Fish and Wildlife's Natural Diversity Database.

California Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act (Water Code §§ 13000 et seq.) is the key water quality control law for California and counterpart to the federal Clean Water Act. In contrast to the federal CWA, which is limited, the WQA applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Under this Act, the State Water Resources Control Board, through its Regional Water Quality Control Boards, has been authorized to carry out the regulation, protection, and administration of water quality in each region in accordance with a Water Quality Control Plan (Basin Plan). Corona is in the Santa Ana River Watershed. The Santa Ana River Basin Plan (1995) describes the water quality that must be maintained to support the beneficial uses of the basin's waters, and provides programs, projects, and other regulatory actions to achieve the standards in the Basin Plan.

Lake or Streambed Alteration Program

The CDFW, through provisions of the State of California Administrative Code, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may adversely be affected. Streams (and rivers) are defined by the presence of a channel bed and banks and at least an intermittent flow of water. CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake, as defined by CDFW. Typically, wetland delineations are not performed to obtain CDFW Agreements. The reason for this is that CDFW generally includes any riparian habitat within the jurisdictional limits of streams and lakes. Riparian habitat includes willows, mulefat, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the

limits of CDFW jurisdiction based on riparian habitat will automatically include any wetland areas.

Additional state and federal laws are described more fully in the General Plan EIR and technical background for the biological resources chapter.

Western Riverside County Multi-Species Habitat Conservation Plan

The Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional plan that addresses biological and ecological diversity by conserving species and associated habitats, while allowing approval of development in western Riverside County. The MSHCP is administered by the Regional Conservation Authority Western Riverside County. The MSHCP's plan area encompasses 1,967 square miles and addresses 146 sensitive plant and animal species and the vegetation communities they depend on. Of these, 14 animal species and 11 plant species are listed by the USFWS under the FESA. Several species also have federally designated critical habitat within the MSHCP jurisdiction.

The MSHCP has 14 planning areas with specific conservation goals for each area. Corona and its SOI are entirely within the Temescal Canyon Area Plan. The TCAP is divided into five subunits, defined by the presence or potential occurrence of listed species, those with specific habitat requirements, and key biological issues and considerations, such as habitat linkages. Figure 4-7, *Western Riverside County MSHCP*, identifies the elements of the MSHCP within the City and SOI. Specific cells comprising 160 acres each are designated for planning purposes. Several cell groups are defined that meet MSHCP criteria for conservation. The listing status of plants and animals may change over time, with species added or deleted from the listing.

Stephan's Kangaroo Rat Habitat Conservation Plan

Portions of Riverside County are also covered by a habitat conservation plan (HCP) for Stephens' Kangaroo Rat (SKR). Approved by the USFWS in 1996, the HCP granted an incidental take permit for Riverside County. The HCP covers approximately 534,000 acres within Riverside County, including an estimated 30,000 acres of occupied habitat. The plan authorizes the incidental take of up to half of the occupied habitat remaining in the HCP plan area while using development fees to implement the plan, purchase private property, and create a reserve system. The SKR HCP and corresponding permits are in effect for areas covered by the MSHCP.

The SKR HCP and fee area overlap the eastern and southern portions of the City of Corona and its SOI. The HCP is administered by the Riverside County Habitat Conservation Agency. While the core reserves established by the SKR HCP are managed as part of the MSHCP Conservation Area, the SKR HCP still provides "take" authorization within its boundaries. The MSHCP provides "take" authorization for SKR within its boundaries outside of the area already covered by the HCP, as described in the final MSHCP. As noted above, a portion of the preservation area is in Corona and so any corresponding policies would be applicable to the City.

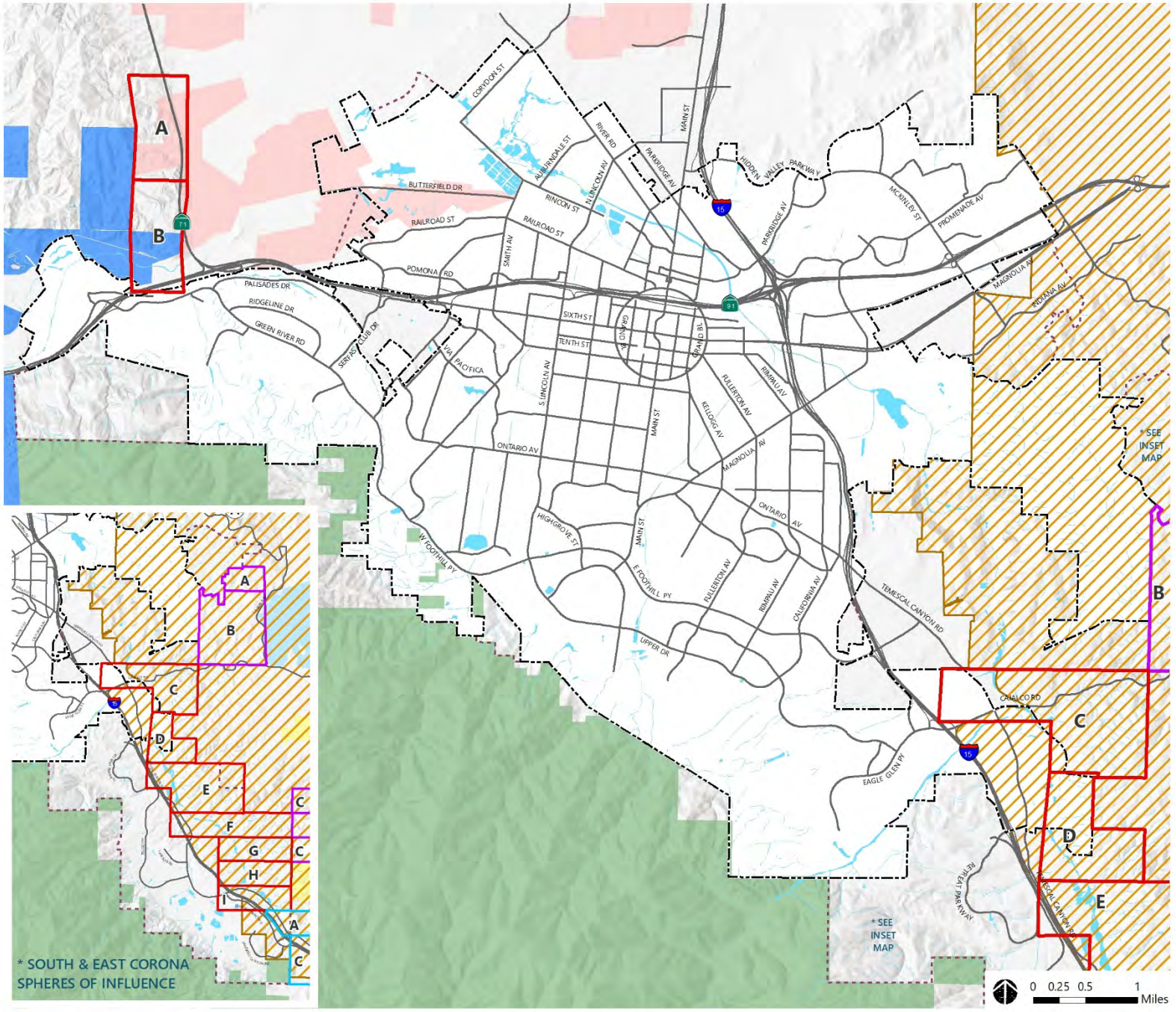


Figure 4-7
Western Riverside County MSHCP

Legend

MSHCP Cell Groups

- Elsinore Area Plan
- Lake Mathews/ Woodcrest Area Plan
- Temescal Canyon Area Plan
- Open Water
- Bureau of Land Management
- US Forest Service
- Department of Defense
- Local Government
- State Lands
- Stephens Kangaroo Rat Fee Area
- City Boundary
- Sphere of Influence Areas

Source:
SCWA 2017

CORONA General Plan

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California Native Plant Protection

The Native Plant Protection Act (NPPA) of 1977 (Fish and Game Code §§ 1900–1913) directs the CDFW to "preserve, protect and enhance rare and endangered plants in California." Under the NPPA, the California Fish and Game Commission has designated native plants as "endangered" or "rare" and can require measures to preserve, protect, and enhance these resources. The NPPA prohibits "taking" of rare and endangered species except in compliance with the CESA. Individual land owners must notify the CDFW in advance of changing land uses to allow the CDFW to salvage any rare or endangered native plant material.

Operating under an MOU with the CDFW, the California Native Plant Society (CNPS) maintains an inventory of plants believed or known to be rare in California. This list includes species not protected under federal or state endangered species legislation. Plants in the inventory are assigned a "rare plant rank," including plants presumed extinct (List 1A); plants that are rare, threatened, or endangered in California and elsewhere (List 1B); or plants that are rare, threatened, or endangered in California, but more common elsewhere (List 2). Plants on the CNPS List 1 or 2 generally meet the definitions of rare or endangered and definitions for CEQA and CESA, and as such are eligible for state listing.

Corona 2004 General Plan

The 2004 Corona General Plan, Environmental Resources Element, addresses the management of open space and conservation of natural resources, such as water resources; soils, plants, and animals; viewscapes; air resources; and energy. Specific information about biological resources is in the technical reports to the General Plan and EIR. The 2004 General Plan sets forth 6 goals and 30 policies that articulate the City's approach to conserving biological resources.

- **Goal 10.6.** Protect, enhance, and sustain significant plant and wildlife species and habitat, which exist in Corona and its Planning Area for the long term benefit of the natural environment, and Corona residents and visitors.
- **Goal 10.7.** Ensure that biological resources are not impacted during or as a result of construction and development activity.
- **Goal 10.8.** Increase public awareness of biological resources within the City and Planning Area.
- **Goal 10.9.** Protect natural and biological resources within riparian corridors and wetlands.
- **Goal 10.10.** Protect forest and vegetation resources in the City of Corona and the Planning Area.
- **Goal 10.11.** Protect Temescal Wash and work towards its ultimate use for recreational and open space purposes such as trails, habitat preservation, and groundwater recharge.

4.6.2 Existing Conditions

This section describes the biological resources in Corona, specifically the classifications used to understand sensitive resources, followed by a discussion of sensitive biological resources, special status species, and wildlife corridors.

Introduction

While most of the City is highly urbanized and provides minimal habitat value for sensitive and special status species, surrounding open space areas offer biotic resources. The City of Corona and its SOI lie between the Santa Ana Mountains and the Cleveland National Forest in a valley within the Santa Ana River watershed. The flow of the Santa Ana River begins in the San Bernardino Mountains and ends in the Pacific Ocean. Geographic features that have and continue to influence the biotic conditions in the City and its SOI include several mountain ranges. The Temescal Mountains are one of the more dominant features of Corona.

The Temescal Mountains host a diverse array of plant species in distinctive natural plant communities, including coastal sage scrub, chaparral, riparian woodland, southern oak woodland, rocky outcrop, valley grassland, and rare flowers. Open space areas that surround the City—including Chino Hills State Park, Cleveland National Forest, Lake Mathews Estelle Mountain Reserve, and Prado Basin—support a variety of plants and animals native to California. Various conservation areas have been established by state, federal, and local agencies to preserve plant and wildlife species.

As described later, the City of Corona and its SOI have numerous biological resources, although the vast majority are in the SOI. These include:

- 12 sensitive natural communities
- 5 designated critical habitats for threatened or endangered species
- 64 special status plant species that could be present in Corona or its SOI
- 59 special status wildlife species that could be present in the City or SOI
- Several potential wildlife movement corridors

Figure 4-8, *Conservation Lands*, on the following page shows the location of areas preserved for wildlife and plant species. The vast majority of these are on the perimeter of Corona, at the edges of the built environment. These conservation areas, coupled with the City's incorporated boundaries and SOI, will largely constrain future growth and development.

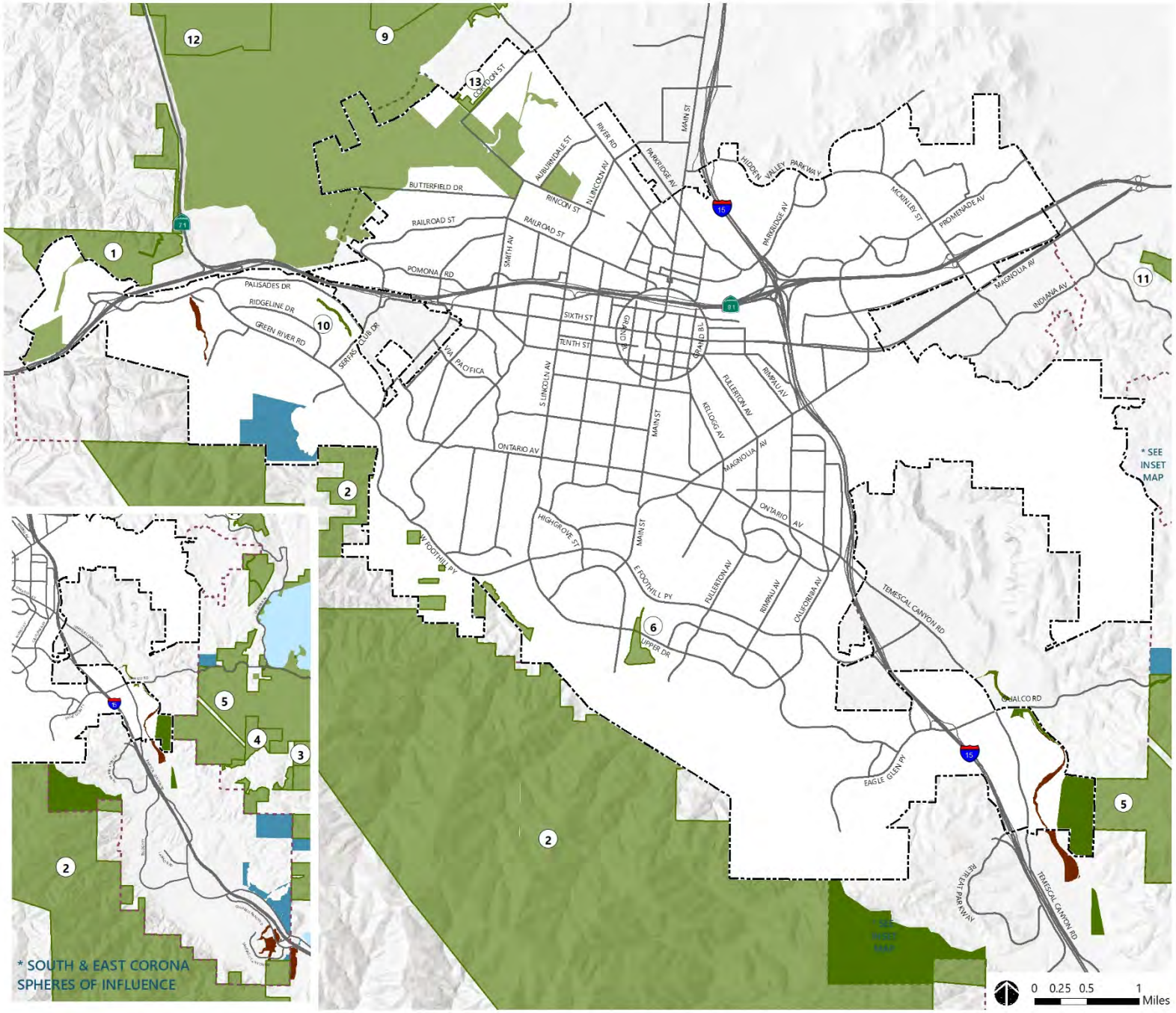


Figure 4-8
Conservation Lands

Legend

- MSHCP Conserved Lands
- RCA Conserved Lands
- RCA Conservation Easements
- Public Quasi-Public Conserved Lands
  - 1 - Chino Hills State Park
  - 2 - Clevland National Forest
  - 3 - El Sobrante Landfill
  - 4 - El Sobrante HCP
  - 5 - Lake Mathews / Estelle Mountain Reserve
  - 6 - Main Street Channel
  - 7 - Mockingbird Canyon Levee
  - 8 - Mockingbird Canyon Reservoir
  - 9 - Prado Basin Park
  - 10 - RCRCD Thomas Ranch
  - 11 - Riverside Land Conservancy MOU
  - 12 - Santa Ana River Regional Park
  - 13 - Stagecoach Park
- City Boundary
- Sphere of Influence Areas

Note:
MSHCP Conserved Lands are owned and managed by the Riverside-Corona Resource Conservation District (RCRCD).

Source:
Western Riverside County Regional Conservation Authority (RCA) 2017

CORONA General Plan

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Sensitive Biological Resources

Corona is home to a wide range of "special-status biological resources," defined as those in decline or with declining habitats as well as species that have been accorded special recognition by federal, state, or local conservation agencies and organizations as endangered, threatened, rare, or otherwise of concern. These resources are described below.

Sensitive Natural Communities

Sensitive or special status communities are vegetation types, associations, or subassociations that support concentrations of special status plant or wildlife species and have a relatively limited distribution. Additionally, riparian communities are always considered sensitive. As listed in Table 4-11, 12 special status natural communities are known to occur within the City or SOI, and all are associated with ephemeral or perennial water features and provide habitat or movement corridors for wildlife. All documented occurrences are along the northern border of the City or in the Cleveland National Forest along the southwest border of the City and its SOI.

Table 4-11 Sensitive Natural Communities in Corona

Natural Community	CNDDB Global/State Rank
California Walnut Woodland	G2/S2.1
Canyon Live Oak Ravine Forest	G3/S3.3
Riversidian Alluvial Fan Sage Scrub	G1/S1.1
Southern California Arroyo Chub/Santa Ana Sucker Stream	GNR/SNR
Southern Coast Live Oak Riparian Forest	G4/S4
Southern Cottonwood Willow Riparian Forest	G3/S3.2
Southern Interior Cypress Forest	G2/S2.1
Southern Riparian Forest	G4/S4
Southern Riparian Scrub	G3/S3.2
Southern Sycamore Alder Riparian Woodland	G4/S4
Southern Willow Scrub	G3/S2.1
Valley Needlegrass Grassland	G3/S3.1

Source: Biological Resources Technical Report, SWCA, 2017

Notes:

G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity
G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations
G3 = Vulnerable – At moderate risk of extinction due to restricted range; relatively few populations
G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern
S1 = Critically Imperiled – Critically imperiled because of extreme rarity
S2 = Imperiled – Imperiled because of rarity due to very restricted range
S3 = Vulnerable – Vulnerable due to a restricted range, relatively few populations
S4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern
SNR = State Rank not yet assessed

Critical Habitat

The USFWS designates Critical Habitat for listed endangered or threatened species of flora and fauna. Critical Habitat is defined in the FESA as habitat deemed essential to the survival of a federally listed species. Generally, threatened species means any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Endangered species are those that may face extinction.

In Corona and its SOI, several animals and plants have been designated federal endangered (FE), federal threatened (FT), and/or state endangered (SE). These species also have designated Critical Habitat areas in the vicinity of the City and its SOI, as identified in Figure 4-9, *Designated Critical Habitat*. These areas include the Prado Dam; the Santa Ana River, emanating from the dam; and the southwest portion of the City's SOI abutting the Cleveland National Forest.

Critical habitat has been designated for six species in Corona:

- Least Bell's vireo (FE; SE)
- Western yellow-billed cuckoo (Coccyzus americanus occidentalis) (FT; SE)
- Southwestern willow flycatcher (FE; SE)
- Santa Ana sucker (Catostomas santaanae) (FT)
- Arroyo toad (in the Cleveland National Forest adjacent to the City's SOI)
- Coastal California gnatcatcher (FT)

The Critical Habitat areas for least Bell's vireo, western yellow-billed cuckoo, and southwestern willow flycatcher are at the northern end of the City on and around the Prado Reservoir, a known location for bird species. The Santa Ana River is listed as Santa Ana Sucker Critical Habitat; the Santa Ana River flows north of SR-91 and flows through the northwestern corner of the City boundary. Coastal California gnatcatcher Critical Habitat is widely distributed in the Chino Hills State Park and the eastern foothills of the Cleveland National Forest. It is primarily adjacent to the City. Critical Habitat for Braunton's milk-vetch is delineated outside the City and SOI.





Source: https://en.wikipedia.org/wiki/Yellow-billed_cuckoo;
https://commons.wikimedia.org/wiki/File:Bell%27s_Vireo.jpg

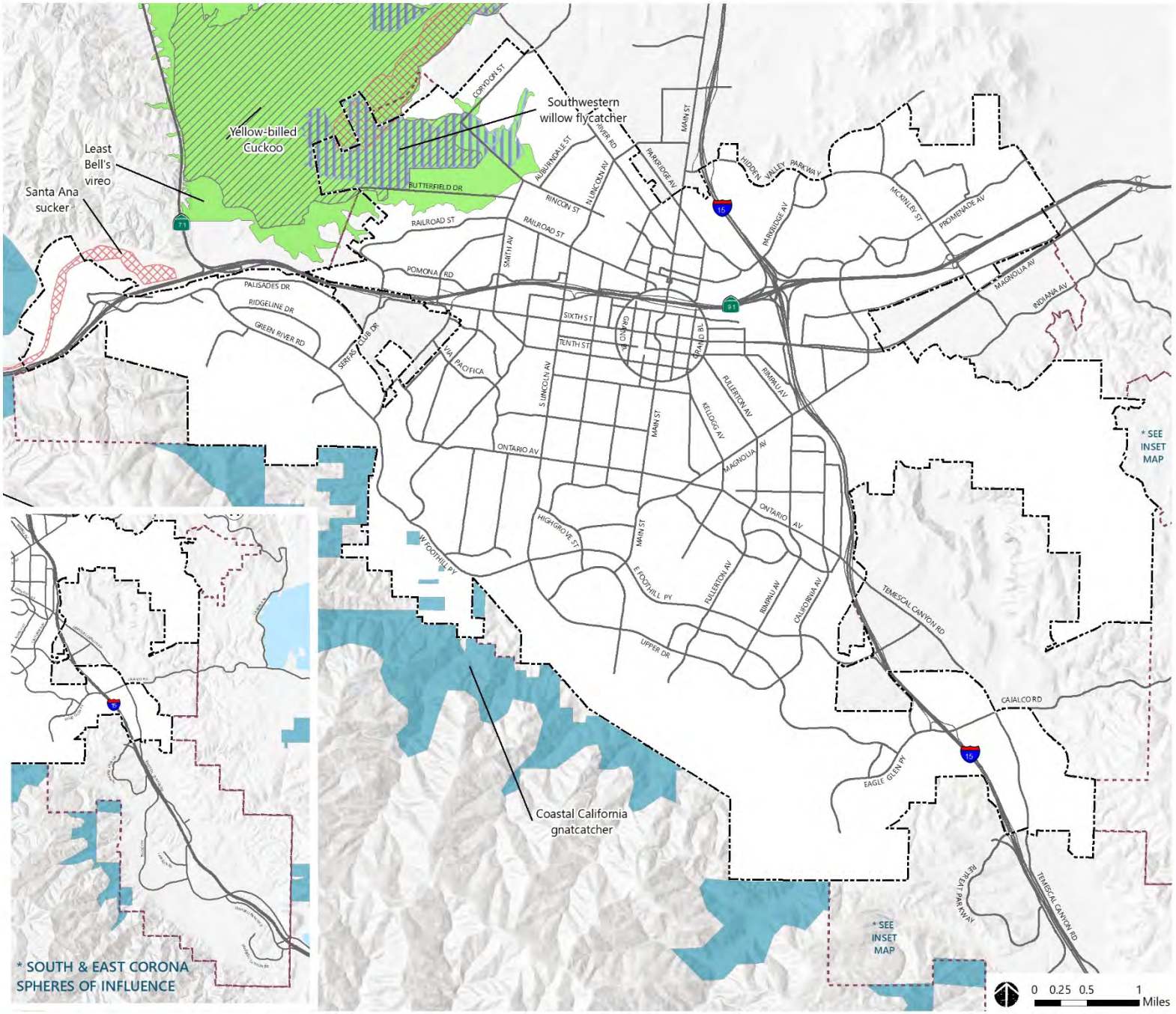


Figure 4-9 Designated Critical Habitat

Legend

Critical Habitat Area

- Arroyo toad
- Least Bell's vireo
- Santa Ana sucker
- Southwestern willow flycatcher
- Yellow-billed Cuckoo
- Coastal California gnatcatcher
- City Boundary
- Sphere of Influence Areas

Source:
SCWA 2017

CORONA General Plan

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Special Status Species

"Special Status Species" is a universal term used in the scientific community for species that are considered sufficiently rare that they require special consideration and/or protection and should be, or have been, listed as rare, threatened, or endangered by the federal and/or state governments. Federal regulatory agencies consider special status species to be those at risk of becoming threatened, endangered, or extinct.

The CDFW defines "special" animals, plants, and communities as those where at least one of the following conditions applies:

- Officially listed or proposed for listing under the state and/or federal ESAs.
- Considered by the CDFW to be a Species of Special Concern (SSC).
- Listed by the CNPS with a Rare Plant Rank (RPR).
- Included on other lists, such as Riverside County.
- Taxa that meet the criteria for listing, even if not currently on any list, as described in Section 15380 of the CEQA Guidelines.
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation.
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California.
- Taxa closely associated with a habitat that is declining in California at a significant rate (wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.).
- Taxa designated as a special status, sensitive, or declining species by other state or federal agencies or a nongovernmental organization and determined by the state to be rare, restricted, declining, or threatened across their range in California.

A comprehensive review of CNDDB and the CNPS Rare Plant Inventory identified 64 special status species that may be present in the City or SOI that have CNDDB or the CNPS Rare Plant Inventory records. Refer to the EIR Technical Report for general locations of sensitive species. Due to the size and diversity of the City and SOI, field surveys are recommended to determine potential for sensitive species in undeveloped areas. It should be assumed that these species have at least a low potential to occur prior to being reviewed by a qualified biologist.

Table 4-12, *Special Status Plant Species with Records in the Study Area*, lists special status plant species that could be present in the City and/or SOI. The General Plan EIR and Biological Resources Technical Report provide greater detail on each species.

Table 4-12 Special Status Plant Species in the Study Area

Species Name	Habitat	Status	CRPR	Last CNDDB Sighting
Abronia villosa var. *aurita* | chaparral sand-verbena	Chaparral, coastal scrub, desert dunes. Sandy areas. 60-1,570 m.[1]	-	1B.1	City (1934) SOI (2015)
Allium munzii Munz's onion[3]	Chaparral, coastal scrub, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Heavy clay soils; grows in grasslands & openings within shrublands or woodlands. 375-1,040 m.[1]	FE, ST	1B.1	SOI (2011)
Ambrosia pumila San Diego ambrosia[3]	Chaparral, coastal scrub, valley and foothill grassland. Sandy loam or clay soil; sometimes alkaline. In valleys; persists where disturbance has been superficial. Sometimes on margins or	FE	1B.1	
Asplenium vespertinum western spleenwort	Rocky areas in chaparral, cismontane woodland and coastal scrub. Sometimes the base of overhanging boulders. 180-1,000 m.[2]	-	4.2	
Astragalus brauntonii Braunton's milk-vetch[4]	Chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; usually on sandstone with carbonate layers. Soil specialist; requires shallow soils to defeat pocket	FE	1B.1	
Atriplex coronata var. *notation* | San Jacinto Valley crownscale[3]	Alkaline soils in playas, valleys and foothill grasslands (mesic), and vernal pools. 139-500 m.[2]	FE	1B.1	
Atriplex coulteri Coulter's saltbush	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m.	-	1B.2	
Baccharis malibuensis Malibu baccharis	Coastal scrub, chaparral, cismontane woodland, riparian woodland. In Conejo volcanic substrates, often on exposed roadcuts. Sometimes occupies oak woodland habitat. 150-320	-	1B.1	
Brodiaea filifolia thread-leaved brodiaea[3]	Cismontane woodland, coastal scrub, plays, valleys and foothill grassland, vernal pools, and openings in chaparral. 25-1,120m.[2]	FT, SE	1B.1	
Calandrinia breweri Brewer's calandrinia	Sandy or loamy soils, disturbed sites and burns within chaparral and coastal scrub. 10-1,220 m.[2]	-	4.2	
California macrophylla | round-leaved filaree[3]	Cismontane woodland, valley and foothill grassland. Clay soils. 30-1,345 m.[1]	-	1B.2	City (2009)
Calochortus catalinae Catalina mariposa lily	Often occurring in heavy soil in opengrassland or scrub. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. 15-700 m.[2]	-	4.2	
Calochortus plummerae | Plummer's mariposa-lily[3,6]	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial	-	4.2	
Calochortus weedii var. *intermedius* intermediate mariposa-	Coastal scrub, chaparral, valley and foothill grassland. Dry, rocky open slopes and rock outcrops. 60-1,575 m.[1]	-	1B.2	City (2008) SOI (2008)
Calystegia felix | lucky morning-glory	Meadows and seeps, riparian scrub. Sometimes alkaline, alluvial. 30-215 m.		3.1	
Carex buxbaumii Buxbaum's sedge	Peatland and wet meadows. Bogs, fens, marshes, swamps, as well as mesic meadows and seeps. 3-3,300 m.[2]	-	4.2	

Table 4-12 Special Status Plant Species with Records in the Study Area

Species Name	Habitat	Status	CRPR	Last CNDDB Sighting
Caulanthus simulans Payson's jewelflower[3]	Sandy and granitic soils in chaparral, coastal scrub, and pinyon/juniper woodland. 90-2,200 m.[2]	-	4.2	
Centromadia pungens ssp. *laevis* | smooth tarplant[3]	Valley and foothill grassland, chenopod scrub, meadows and seeps, playas, riparian woodland. Alkali meadow, alkali scrub; also in disturbed places. 5-1,170 m.[1]	-	1B.1	SOI (1988)
Chorizanthe leptotheca Peninsular	Sandy or gravelly soils. Often in alluvial fans with granitic soils. 300-1,900 m.[2]	-	4.2	
Chorizanthe parryi var. *fernandina* | San Fernando Valley	Coastal scrub, valley and foothill grassland. Sandy soils. 15-1,015 m.[1]	PT, SE	1B.1	
Chorizanthe parryi var. *parryi* | Parry's spineflower[3,6]	Coastal scrub, chaparral, cismontane woodland, valley and foothill grassland. Dry slopes and flats; sometimes at interface of 2 vegetation types, such as chaparral and oak woodland. Dry, sandy soils. 90-1,220 m.[1]	-	1B.1	
Chorizanthe polygonoides var. *longispina*	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Gabbroic clay. 30-1,540 m.[1]	-	1B.2	
Chorizanthe xanti var. *leucotheca* white-bracted	Sandy or gravelly soils in Mojavean desert scrub, pinyon/juniper woodland, and alluvial fans within coastal scrub. 300-1,200 m.[2]	-	1B.2	
Clinopodium chandleri San Miguel savory[3]	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Rocky, gabbroic or metavolcanic substrate. 120-1,075 m.[1]	-	1B.2	
Comarostaphylis diversifolia ssp. *diversifolia*	Chaparral, cismontane woodland. Often in mixed chaparral in California, sometimes post-burn. 30-945 m.[1]	-	1B.2	
Convolvulus simulans small-flowered morning-glory[3]	Clay substrates, occasionally serpentine soils. Coastal scrub, valley and foothill grassland, and openings in chaparral. 30-740 m.[2]	-	4.2	
Deinandra paniculata paniculate tarplant	Usually in vernally mesic areas, often with sandy soils in coastal scrub, valley and foothill grassland, vernal pools. Also open chaparral, woodland, and disturbed areas. 25-940 m.[2]	-	4.2	
Diplacus clevelandii Cleveland's bush monkeyflower[3]	Often in disturbed, rocky, or open areas with gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest. 450-2,000 m.[2]	-	4.2	
Dodecahema leptoceras slender-horned spineflower[3]	Chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Flood deposited terraces and washes; associates Sandy soils. 200-765 m.[1]	FE, SE	1B.1	
Dudleya multicaulis many-stemmed	Chaparral, coastal scrub, valley and foothill grassland. In heavy, often clayey soils or grassy slopes. 15-790 m.[1]	-	1B.2	City (1996) SOI (1996)
Dudleya viscida sticky dudleya[3,6]	Coastal scrub, coastal bluff scrub, chaparral, cismontane woodland. On north & south-facing cliffs. 20-870 m.[1]	-	1B.2	
Eriastrum densifolium ssp. *sanctorum* Santa Ana River	Coastal scrub, chaparral. In sandy soils on river floodplains or terraced fluvial deposits. 180-700 m.[1]	FE, SE	1B.1	

Table 4-12 Special Status Plant Species with Records in the Study Area

Species Name	Habitat	Status	CRPR	Last CNDDB Sighting
Erythranthe diffusus[5] Palomar monkeyflower[3]	Sandy or gravelly soils in chaparral and lower montane coniferous forest. 1,220-1,830 m.[2]	-	4.3	
Harpagonella palmeri Palmer's grapplinghook[3]	Chaparral, coastal scrub, valley and foothill grassland. Clay soils; open grassy areas within shrubland. 20-955 m.[1]	-	4.2	SOI (1986)
Hesperocyparis forbesii Tecate cypress	Closed-cone coniferous forest, chaparral. Primarily on north-facing slopes; groves often associated with chaparral. On clay or gabbro. 60-1,650 m.[1]	-	1B.1	
Horkelia cuneata var. *puberula* mesa horkelia	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1,645 m.[1]	-	1B.1	
Juglans californica Southern California black walnut	Hillsides and canyons, usually with alluvial substrates in chaparral, cismontane woodland, coastal scrub, and riparian woodland. 50-900 m.[2]	-	4.2	
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields[3]	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1,375 m.[1]	-	1B.1	
Lepechinia cardiophylla heart-leaved pitcher [illegible][3]	Closed-cone coniferous forest, chaparral, cismontane woodland. 520-1,370 m.[1]	-	1B.2	
Lepidium virginicum var. *robinsonii* Robinson's pepper-	Chaparral, coastal scrub. Dry soils, shrubland. 4-1,435 m.[1]	-	4.3	City (2010) SOI (2010)
Lilium humboldtii ssp. *ocellatum* ocellated Humboldt	Openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland. 30-1,800 m.[2]	-	4.2	
Microseris douglasii ssp. *platycarpa* small-flowered	Clay soils in cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. May occur in serpentine outcrops. 15-1,070 m.[2]	-	4.2	
Monardella australis ssp. *jokerstii* Jokerst's monardella	Lower montane coniferous forest, chaparral. Steep scree or talus slopes between breccia. Secondary alluvial benches along drainages and washes. 1,350-1,750 m.[1]	-	1B.1	
Monardella hypoleuca ssp. *intermedia* intermediate	Chaparral, cismontane woodland, lower montane coniferous forest (sometimes). Often in steep, brushy areas. 195-16,750 m.[1]	-	1B.3	
Monardella hypoleuca ssp. *lanata* felt-leaved monardella	Rocky, granitic slopes, or hilltops in chaparral and cismontane woodland. 300-1575 m.[2]	-	1B.2	
Monardella macrantha ssp. *hallii* Hall's monardella[3]	Broadleafed upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland. Dry slopes and ridges in openings. 700-1770 m.[1]	-	1B.3	
Nolina cismontana chaparral nolina	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. 140-1,275 m.1	-	1B.2	SOI (1990)

Table 4-12 Special Status Plant Species with Records in the Study Area

Species Name	Habitat	Status	CRPR	Last CNDDB Sighting
Orcuttia californica California Orcutt grass[3]	Vernal pools. 15-660 m.2	FE, SE	1B.1	
Penstemon californicus California beardtongue[3]	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Stony slopes and shrubby openings; sandy or granitic soils. 1,170-2,300 m.[1]	-	1B.2	
Pentachaeta aurea ssp. *allenii* | Allen's pentachaeta	Valley and foothill grasslands, coastal scrub. Openings in scrub or grassland. 75-520 m.[1]	-	1B.1	
Phacelia keckii Santiago Peak phacelia	Closed-cone coniferous forest, chaparral. Open areas, sometimes along creeks. 545-1,525 m.[1]	-	1B.3	
Phacelia stellaris Brand's star phacelia[3]	Coastal scrub, coastal dunes. Open areas. 3-370 m.[1]	-	1B.1	
Pickeringia montana var. *tomentosa* | woolly chaparral-pea	Gabbroic, granitic, and clay soils in chaparral. May occur in washes. 0-1700 m.[2]	-	4.3	
Polygala cornuta var. *fishiae* | Fish's	Chaparral, cismontane woodland, and riparian woodland. 100-1000 m.[2]	-	4.3	
Pseudognaphalium leucocephalum white rabbit-tobacco	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 35-515 m.[1]	-	2B.2	SOI (2004)
Romneya coulteri Coulter's matilija	Canyons and washes in chaparral and coastal scrub. Often occurs in burn areas. 20-1,200m.[2]	-	4.2	
Senecio aphanactis chaparral ragwort	Dry open rocky areas in chaparral, cismontane woodland, and coastal scrub. Sometimes occurs in alkaline flats. 15-800 m.[2]	-	2B.2	
Sidalcea neomexicana salt spring checkerbloom	Playas, chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub. Alkali springs and marshes. 3-2,380 m.[1]	-	2B.2	
Symphyotrichum defoliatum San Bernardino aster	Meadows and seeps, cismontane woodland, coastal scrub, lower montane coniferous forest, marshes/swamps, valley and foothill grassland. Vernally mesic grassland or near ditches,	-	1B.2	SOI (1986)
Tortula californica California screw-moss	Chenopod scrub, valley and foothill grassland. Moss growing on sandy soil. 10-1,460 m.[1]	-	1B.2	

Source: Biological Resources Technical Report, SWCA, 2017

Notes:

1. Habitat descriptions taken from CNDDB General and Microhabitat descriptions.
2. Species not listed or no observations recorded in CNDDB; habitat from CNPS Rare Plant Inventory & Jepson Manual.
3. Species is covered in the MSHCP.
4. Braunton's milk-vetch critical habitat present outside the City and SOI.
5. Species known as *Mimulus diffusus* (CRPR 4.3) in MSHCP and Calflora, *Mimulus palmeri* (is not a rare species) in TMJ2.
6. Species not included in the MSHCP "Adequately Conserved" list.

FE = Federally Endangered
FT = Federally Threatened
PT = Proposed Threatened under ESA.
SE = State Endangered
ST = State Threatened

CRPR = California Rare Plant Rank.
1A: Presumed extinct in California
1B: Rare, threatened, or endangered in California and elsewhere.
2: Rare, threatened, or endangered in California, but more common elsewhere.
3: More information needed (Review List)
4: Limited distribution (Watch List)
0.1: Seriously threatened in California.
0.2: Fairly threatened in California.
0.3: Not very threatened in California.

Special Status Wildlife

Special status wildlife species are those listed as threatened or endangered, proposed for listing, or candidates for listing by USFWS and CDFW, and that are considered sensitive by CDFW. A review of available biological resources databases indicates that 59 special status wildlife species have CNDDB records within the planning area. Table 4-13, *Special Status Wildlife Species in the Study Area*, lists each species. Of the potentially occurring wildlife species in the planning area, 7 are federally endangered and 4 are federally threatened. Under CESA, 4 are recognized as state-endangered, 2 as state threatened, and 30 are listed as California Species of Concern.

The Corona Planning Area is home to 51 special-status wildlife species, consisting of 5 invertebrates, 3 fish, 4 amphibians, 10 reptiles, 24 birds, and 5 mammals. Critical Habitat exists in the Planning Area: for the following species: Santa Ana sucker, western yellow-billed cuckoo, southwestern willow flycatcher, coastal California gnatcatcher, and least Bell's vireo. A description of habitat requirements for these species is included in the table. Some of the special status species described below—such as the special status fish, western pond turtle, and two-striped garter snake—require permanent sources of water or specific vegetation community composition. Habitat must meet these requirements to be considered significant for these species.



Coastal Whiptail

Table 4-13 Special Status Wildlife Species in the Study Area

Scientific Name	Common Name	Status	CNDDB Global/ State Rank
Invertebrates			
Bombus crotchii Crotch bumble bee	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	SA	City – 1933
Branchinecta sandiegonensis San Diego fairy shrimp	Endemic to San Diego and Orange County mesas. Vernal pools.	FE	
Carolella busckana[3] Busck's gallmoth	Coastal scrub and coastal dunes.	SA	
Ceratochrysis longimala Desert cuckoo wasp	Hosts are unknown. Other members of this genus known as nest parasites of "a variety of genera in the Crabronidae and Vespidae."[4]	SA	
Streptocephalus woottoni Riverside fairy shrimp[2]	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water.	FE	
Fish			
Catostomus santaanae Santa Ana sucker[2, 7, 13]	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	FT	City – 1991 SOI – 1991
Gila orcuttii arroyo chub[2]	Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave & San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	SSC	City -1997 SOI – 1991
Rhinichthys osculus ssp.[3] Santa Ana speckled dace	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	SSC	
Amphibians			
Anaxyrus californicus arroyo toad[2]	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams.	FE, SSC	
Lithobates pipiens northern leopard frog	Native range is east of Sierra Nevada-Cascade Crest. Near permanent or semi-permanent water in a variety of habitats. Highly aquatic species. Shoreline cover, submerged and emergent aquatic vegetation are important habitat characteristics.	SSC	
Spea hammondii[5] western spadefoot[2]	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	SSC	SOI – 2008
Taricha torosa Coast Range newt[2]	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	SSC	City – 1999 SOI – 1999

Table 4-13 Special Status Wildlife Species in the Study Area

Scientific Name	Common Name	Status	CNDDB Global/ State Rank
Reptiles			
Anniella stebbinsi southern California legless lizard	Generally, south of the Transverse Range, extending to Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Variety of habitats; generally, in moist, loose soil. They prefer soils with a high moisture content.	SSC	
Arizona elegans occidentalis California glossy snake	Patchily distributed in Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	SSC	
Aspidoscelis hyperythra orange-throated whiptail[2]	Inhabits low-elevation coastal scrub, chaparral, valley-foothill hard-wood habitats. Prefers washes and sandy areas with brush and rocks. Perennial plants needed for its major food: termites.	WL	
Aspidoscelis tigris stejnegeri coastal whiptail[2]	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland & riparian areas. Ground may be firm soil, sandy, or rocky.	SSC	SOI – 2016
Coleonyx variegatus abbotti San Diego banded gecko[2]	Coastal & cismontane Southern California. Found in granite or rocky outcrops in coastal scrub and chaparral habitats.	SSC	
Crotalus ruber red-diamond rattlesnake[2]	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	SSC	City – 2010 SOI – 1992
Emys marmorata western pond turtle[2]	Aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet amsl. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	SSC	City – 1992
Phrynosoma blainvillii[6] coast horned lizard[2]	Frequents a variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	SSC	City – 1951 SOI – 2016
Salvadora hexalepis virgultea coast patch-nosed snake	Brushy or shrubby vegetation in coastal Southern California. Require small mammal burrows for refuge and overwintering sites.	SSC	
Thamnophis hammondii two-striped gartersnake	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 feet elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	SSC	
Birds			
Accipiter cooperii Cooper's hawk[2]	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	WL	
Agelaius tricolor tricolored blackbird[2]	Highly colonial species. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	CE, SSC	
southern California rufous-crowned sparrow[2]	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	WL	SOI – 2016

Table 4-13 Special Status Wildlife Species in the Study Area

Scientific Name	Common Name	Status	CNDDB Global/ State Rank
Ammodramus savannarum grasshopper sparrow[2,12]	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	SSC	
Artemisiospiza belli Bell's sage sparrow[2]	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range. Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	WL	
Aquila chrysaetos golden eagle[2]	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	FP	City – 2007 SOI – 2007
Asio otus long-eared owl	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	SSC	
Athene cunicularia burrowing owl[2]	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	SSC	City – 2007 SOI – 1986
Buteo swainsoni Swainson's hawk[2]	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, & agricultural or ranch lands with groves or trees. Requires suitable foraging areas--grasslands, or alfalfa or grain fields supporting rodent populations.	ST	City – 1919 SOI – 1919
coastal cactus wren[2]	Southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	SSC	
Charadrius alexandrinus nivosus western snowy plover	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	FT, SSC	
Circus cyaneus northern harrier[2]	Coastal salt & freshwater marsh. Nest and forage in grasslands, from salt grass to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	SSC	
Coccyzus americanus occidentalis | western yellow-billed cuckoo[2,8]	Riparian forest nester, along the broad, lower flood-bottoms of larger rivers. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	FT, SE	City – 2011 SOI – 2011
Coturnicops noveboracensis yellow rail	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	SSC	
Elanus leucurus white-tailed kite[2]	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	FP	
Empidonax traillii extimus | southwestern willow flycatcher[2,9]	Riparian woodlands in Southern California.	FE, SE	

Table 4-13 Special Status Wildlife Species in the Study Area

Scientific Name	Common Name	Status	CNDDB Global/ State Rank
Eremophila alpestris actia California horned lark[2]	Short-grass prairie, hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	WL	
Haliaeetus leucocephalus bald eagle[2]	Lake margins and rivers for nesting and wintering. Most nests within 1 mile of water. Large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts	SE, FP	
Icteria virens yellow-breasted chat[2]	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian of willow, blackberry, wild grape; forages within 10 ft of ground.	SSC	
Laterallus jamaicensis coturniculus California black rail	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	ST, FP	
Plegadis chihi white-faced ibis[2]	Shallow freshwater marsh. Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	WL	
Polioptila californica coastal California gnatcatcher[2,10]	Obligate, permanent resident of coastal sage scrub below 2500 ft in So. California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all coastal sage scrub are occupied.	FT, SSC	City – 2003 SOI – 2002
Setophaga petechia yellow warbler[2]	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow	SSC	
Vireo bellii pusillus least Bell's vireo[2,11]	Summer resident of So. California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	FE, SE	City – 2011 SOI – 2014
Mammals			
Antrozous pallidus pallid bat	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to	SSC	
Chaetodipus fallax fallax northwestern San Diego pocket mouse	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County. Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	SSC	City - 2001
Dipodomys merriami parvus | San Bernardino kangaroo rat[2]	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains. Needs early to intermediate seral stages.	FE, SSC	
Dipodomys stephensi Stephens' kangaroo rat[2]	Primarily annual & perennial grasslands, but also occurs in coastal scrub & sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	FE, ST	City – 1993 SOI – 2000
Eumops perotis californicus western mastiff bat	Many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral, etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	SSC	

Notes:
FE = Federally Endangered
FT = Federally Threatened
SE = State Endangered
ST = State Threatened
CE = State Candidate for Endangered Listing
FP = CDFW Fully Protected
SA = CDFW Special Animals
SSC = CDFW Species of Special Concern

Aquatic Resources

The City has several ephemeral washes that traverse the City and SOI. Artificial ponds and lakes are present, with variable amounts of natural habitat associated with them. Aquatic resources within Corona and the SOI are shown in Figure 4-10, *Drainages and Associated Riparian Communities*.

Drainages

Several washes run through the City from the southwest: Temescal Canyon Wash, Bedford Canyon Wash, Joseph Canyon Wash, Main Street Wash, and Mabey Canyon Wash. Except for Temescal Canyon Wash, most drainages are confined within concrete channels. The Temescal Canyon Wash runs from Lake Elsinore through the El Cerrito area before flowing through the City and draining to the Santa Ana River. In the unchannelized segments of Temescal Wash, substantial riparian vegetation provides habitat for small mammals, amphibians, and birds. The Riverside Canal runs along the northern border of the Home Gardens area.

Artificial Water Bodies

Artificial (created) lakes and ponds are present at Lake Temescal (southeast of the interchange of State Route 91 and Interstate 15), Border Lake (near Brentwood Park), and at the City's golf courses. Lake Temescal is ringed with riparian vegetation and open water areas, providing cover and foraging habitat for birds, amphibians, and western pond turtle. Although Border Lake is surrounded by residential development and lacks riparian plants, open water habitat is present and could be used by birds such as ducks and American coots (*Fulica americana*). Additional water features are present near Prado Dam and the spillway that emanates from it.



Vegetation

While the City of Corona is largely urbanized, there is nonetheless significant vegetation along the edges of Corona and its SOI areas. Vegetation described in this section is based on the generalized and uncollapsed vegetation community classifications in the MSHCP vegetation map, which incorporates updates made in 2012 by CNPS. Natural vegetation communities within the City are primarily coastal sage scrub, grassland, and chaparral. The vegetation is clustered around the periphery of the community. The EIR and Biological Technical Report provide maps of the location of major vegetation by types in Corona and its SOI.

Riparian scrub, woodland, forest with interspersed meadows and marshes, and grassland exist along the northern border of the City. Along part of the western border, just south of SR-91, there exists chaparral with patches of coastal sage scrub, grassland, woodland and forest, and riparian scrub, woodland, and forest. East of Temescal Lake there is an area of coastal sage scrub with patches of grassland and several small riparian corridors. The southern portion of the City has a relatively intact corridor of riparian scrub, woodland, and forest associated with Temescal Wash. Native plant communities identified include coastal sage scrub and southern willow scrub. Coast live oak is a protected tree species in the Conservation Element of the Riverside County General Plan; this species exists in scattered locations within the planning area and should be given consideration regardless of its relative abundance.

Natural vegetation communities that exist along the City's western border are primarily chaparral and coastal sage scrub, with patches of grassland. The El Cerrito area is dominated by grassland and some coastal sage scrub, with riparian scrub, woodland, and forest along the Temescal Canyon Wash and other riparian corridors. Eagle Valley is dominated by agricultural land, and Home Gardens is largely developed. The southern portion of the SOI is characterized by riparian scrub, woodland, and forest along the Temescal Canyon Wash riparian corridor, with adjacent uplands dominated by coastal sage scrub and grassland. The border of the southernmost SOI is dominated by chaparral with some coastal sage scrub and montane coniferous forest.

Nonnative vegetation recorded within the City includes grassland dominated by nonnative species and other ruderal plant communities. Tamarisk (*Tamarix* ssp.) and giant reed (*Arundo donax*) infestations have affected local waterways and places where water collects. Rated "High" on the California Invasive Plant Council list, these two species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure, and their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Tamarisk and giant reed are heavy water users with high evapotranspiration rates, provide little nest or foraging habitat, are difficult to control, and can grow into dense monocultures that block access to water for larger wildlife. Infestations can take over large areas, outcompeting native plants and reducing overall habitat quality.

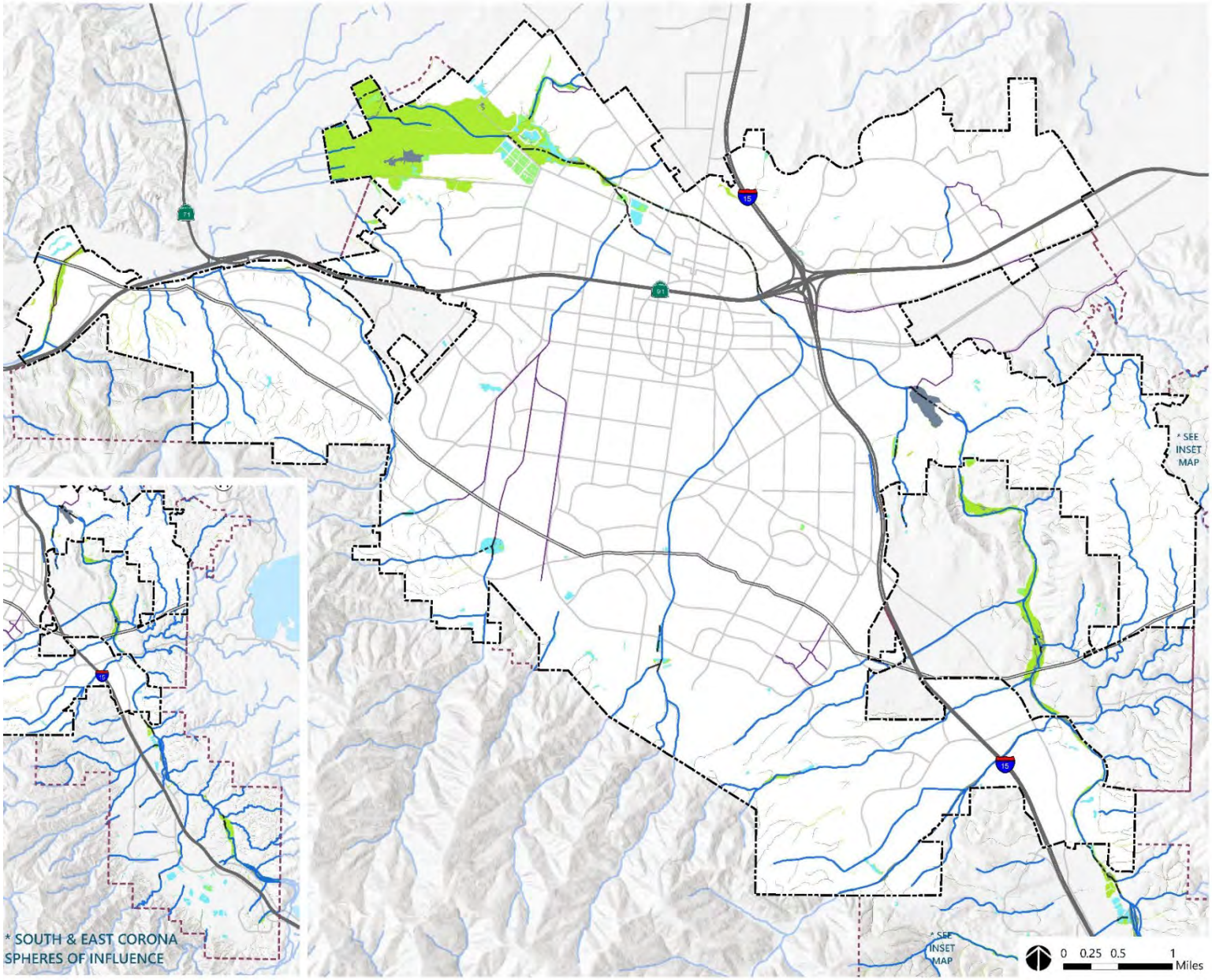


Figure 4-10 Drainages and Riparian Vegetation Communities

Legend

- Artificial Drainage Paths
- Canals and Ditches
- Pipeline
- Streams and Rivers
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- City Boundary
- Sphere of Influence Areas

Source:
SCWA 2017

CORONA General Plan

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Wildlife Travel

Corona is surrounded on virtually all sides by the Cleveland National Forest, Chino Hills State Park, Prado Basin, Lake Matthews-Gavilan Plateau, and other areas which may be crossed by wildlife species. Terms such as habitat corridors, linkages, wildlife crossings, and travel routes are used to describe connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes and environments fragmented by development. Corona has the following types of routes.

- **Wildlife corridors.** These are areas of suitable habitat that are separated by areas of nonsuitable habitat such as rugged terrain, changes in vegetation, or human disturbance. Wildlife corridors are often bounded by urban land areas or other areas unsuitable for wildlife. The corridor contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor.
- **Travel (movement) routes.** These are usually a landscape feature (ridgeline, drainage, canyon, or riparian corridor) within a larger habitat area that is used by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another.
- **Wildlife crossings.** These are small, narrow areas, relatively short in length, that allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access over/under roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent "choke points" along a movement corridor.

In the City, the few areas with natural characteristics that could be used by wildlife as movement or migratory corridors occur in orchards and along drainages. The most prominent features that may provide valuable habitat linkage are the Bedford Canyon Wash and Temescal Canyon Wash; these ephemeral drainages connect the Cleveland National Forest and the Lake Mathews Estelle Mountain Reserve. This potential route is the Bedford Canyon Wash to Lake Mathews Estelle Mountain Reserve Corridor.

Some smaller, mobile species may be able to use the channelized washes that bisect the city, particularly during the dry season. Within the City of Corona, there are no other notable wildlife movement and migratory corridors that link large areas of open space; however, there is potential value in establishing a corridor between the Chino Hills State Park and the Cleveland National Forest by circumventing SR-91. Studies have already shown that wildlife are informally using underpasses just west of the City to move from Chino Hills to the Sierra Del Oro area of Corona.

Most of the land in the West Sphere is in the Cleveland National Forest. The entire southwestern border of the South Sphere is adjacent to the Cleveland National Forest, and large parts of the southeastern border are adjacent to Lake Mathews Estelle Mountain Reserve. The Eastern Sphere is adjacent to the Lake Mathews Estelle Mountain Reserve which extends south to the Lake Elsinore State Recreation Park. The Bedford Canyon Wash to Lake Mathews Estelle Mountain Reserve Corridor goes through the City and the SOI. Figure 4-11, *Potential Wildlife Movement Corridors*, identifies potential wildlife movement between open space in the City and SOI.

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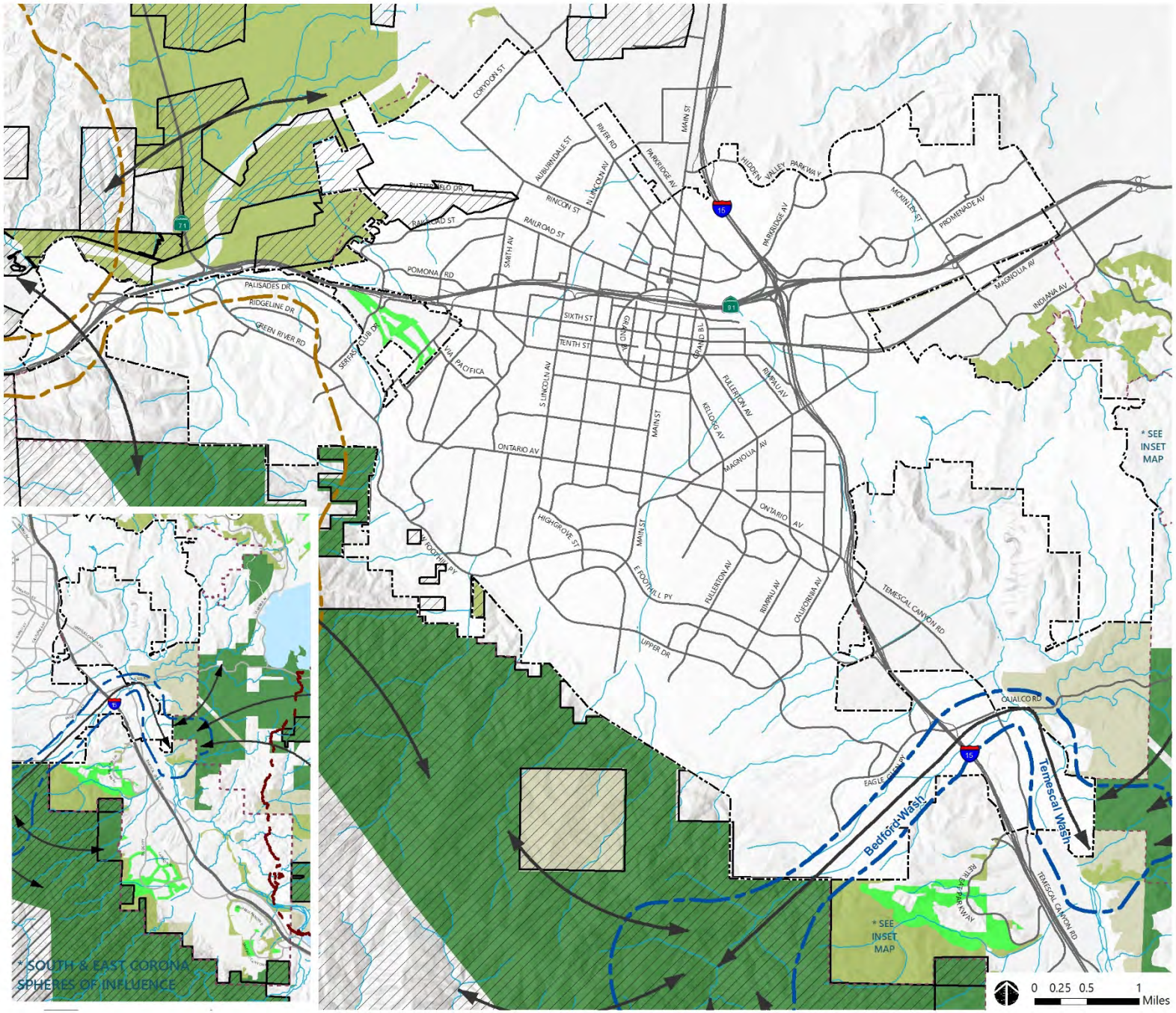


Figure 4-11 Potential Wildlife Movement Corridors

Legend

Essential Connectivity Areas Corridors

- Bedford Wash to Lake Mathews Estelle Mountain Reserve Corridor
- Discontiguous: CNF - Santa Ana Mountains
- Estelle Mountain - Lake Matthews
- State Managed Area
- Conservation
- Conservation Habitat
- Open Space Recreation
- Open Space Rural
- Wildlife Movement
- Streams and Rivers
- City Boundary
- Sphere of Influence Areas

Source:
SCWA 2017

CORONA General Plan

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4.8 IMPLICATIONS FOR THE GENERAL PLAN

Corona has a wealth of natural resources due to its location and unique topography. These include mineral resources; soils, agricultural, and forestry resources; visual resources; water resources, air resources; and varied biological resources. Many of these resources (mineral, visual, and water resources) are present today, while others (agriculture and farmland) have diminished. Chapter 4, Natural Resources, highlights natural resources in Corona and provides a foundation for the general plan update.

4.8.1 Issues for Consideration

» **Mineral, Oil, and Gas Resources.** Although a portion of the SOI is in the Prado-Corona Field, oil and gas production are no longer viable economic resources. Operations within that area also conflict with the habitat and water quality goals in the Prado Basin. However, the Temescal Valley has long been a key source of mineral resource production; it is the center of regionally significant aggregate deposits and one of the largest production areas in California. Industrial minerals and historic mines are also present on the City's southwestern edge, although much of that area is developed or is slated for future development.

  The City's general plan is committed to the preservation of existing mineral resource extraction rights provided mining operations are conducted in a manner consistent with state law and local ordinances. Most of the active production mines in and around Corona have long-term contracts, ensuring that mineral extraction activities are authorized for up to 100 years. As required by local ordinance and state law, the City monitors local mines to ensure compliance with their permits and annual yields, upon which their CEQA clearance was based.

» **Visual Resources.** Corona is a community of exceptional beauty, with stunning viewpoints from most vantage points. Visual resources include the mountains and canyons that frame the community, unique landforms or hillsides, and undisturbed natural areas (riparian areas, oak woodlands, etc.). Scenic highways and roads also traverse the City and south through Temescal Valley, offering prominent views from vantage points throughout the city. Neighborhoods are also well manicured, and the City maintains landscaping design guidelines and maintenance districts to maintain a beautiful residential setting.

  Although Corona is primarily built out with little room for development projects to impede visual resources, development is encroaching into the SOI, which has significant viewsheds. Moreover, infrastructure projects have raised visual concerns. Energy projects proposed in downtown have threatened to impede visual resources with overhead electrical poles along certain segments of Sixth Street. The general plan provides general policy guidance, but the City could benefit from a "visual resources plan" for preserving important scenic resources.

» **Water Resources.** Corona and its SOI overlie the Arlington, Temescal, Bedford, Lee Lake, Coldwater, and Santa Ana Narrows basins. The City depends on groundwater for about 50 percent of its needs. All of the basins are designated "high priority", thus requiring a groundwater management plan. The plan is designed to ensure that water drawn from the aquifer does not exceed

replenishment. Corona and its SOI are crossed by more than 50 ephemeral streams that feed into the Santa Ana River and Temescal Creek (wash). These streams and seasonal rainfall help to replenish the groundwater aquifer and achieve a balance (safe yield).

The City's Recharge Master Plan for the Temescal Basin (2013) is intended to ensure sustainable production through management of pumping and artificial recharge. The City has implemented the plan, and projects are underway to increase the volume of tertiary-treated, reclaimed water available for recharge and to increase the number and capacity of recharge basins. According to the Recharge Master Plan, the Temescal Basin is currently in overdraft; however, the rate of overdraft is decreasing as a result of plan implementation. The City is also active in addressing and cleaning up historic contaminants in the aquifer.

» **Air Resources.** Corona's location at the intersection of two freeways, its industrial and mining sectors, and general topography and wind patterns mean that air quality is an important concern. The region is in nonattainment status for three criteria pollutants: ozone, PM-2.5, and PM-10. A significant volume of vehicles travel on the freeways through the City and on local roadways. These vehicles produce a range of air pollutants, including diesel particulate matter, a known carcinogen. In Corona and its SOI, the cancer risk from air pollution is highest in areas along both sides of the SR-91 corridor, primarily due to diesel emissions.

  Air quality and reducing exposure to pollution will continue to be significant issues for this general plan. Passage of SB 1000 will require the City to address the reduction of pollution exposure and improvement of air quality. Currently, the general plan does not contain policies on environmental justice. Although SB 1000 does not mandate the types of programs to be implemented, the general plan will need to prioritize programs to further environmental justice goals. This topic is addressed in later chapters of this report and executive summary.

» **Biological Resources.** While Corona is highly urbanized, surrounding areas offer biotic resources. The Temescal Valley hosts plant species in distinctive natural plant communities, including coastal sage scrub, chaparral, riparian woodland, southern oak woodland, rocky outcrop, valley grassland, and rare flowers. The nearby Chino Hills State Park, Cleveland National Forest, Lake Mathews Estelle Mountain Reserve, and Prado Basin support plants and animals. These include: 12 sensitive natural communities, 5 critical habitats for threatened or endangered species, 64 special status plant species, and 59 special status wildlife species.

  Conservation of natural resources are typically constrained by private ownership; preservation of these areas depends on the participation of willing landowners. To address the challenges with habitat conservation, the City participates in the Riverside County Multiple Species Habitat Conservation Plan (MSHCP), which is managed by the Regional Conservation Authority. The MSHCP is a regional habitat conservation plan that is designed to conserve larger swaths of land in the region as opposed to it being done city by city or piecemealed basis. While not all species are considered to be adequately covered, it nonetheless represents a significant advance in local and regional conservation efforts.

4.8.2 Opportunities

Corona and its SOI have an abundance of natural resources. The general plan contains a strong menu of policies to address many of the issues associated with the preservation and managed use of natural resources. However, new state law and local planning efforts (e.g., Sustainable Groundwater Management Act, Multi-species Habitat Conservation Plan, etc.) and local concerns suggest a need to strengthen the general plan vision, goals, and policies. Potential ideas are listed below.

» **General Plan Vision.** Principal 6 of the general plan vision states that Corona will respect and enhance its environmental resources. The vision primarily addresses visual resources and recreation. Given the information in this TBR, the vision could be broadened to include other features of the City's environmental resources—water resource management, air quality, habitat and wildlife, and/or other features of importance that the City is implementing at a department level.

» **General Plan Policies.** General plan policies are generally strong for the preservation of natural resources. The exception would be for new regulatory requirements that have been adopted in recent years. The natural resources element could be expanded to address the following issues:

- Greater emphasis on sustainable groundwater management principles that reflect the City's recently developed master plans.
- Stronger support for the production and use of reclaimed/recycled water that tiers off the City's updated Reclaimed Water System Master Plan.
- Greater focus on supporting the establishment of linkages for wildlife movement in regional plans (e.g., Prado Basin Master Plan).
- Formal recognition and stronger policy guidance for local scenic resources, vistas, and corridors to ensure their protection and enhancement.
- Policy guidance for reducing exposure to pollutants by sensitive receptors through buffers, distances, or prohibition/regulation of land uses.

» **General Plan Implementation.** The General Plan could also contain new programs for addressing resource protection and preservation in the community. These programs should be coordinated with the City's various master plans. Specific programs could be proposed or designed to:

- Develop a scenic resources implementation plan, which was mentioned in the current general plan.
- Develop sustainable groundwater management plan updates as required under the Sustainable Groundwater Management Act.
- Consider measures to reduce exposure to air pollution from industry and measures that will improve air quality, as required under SB 1000.
- Support reestablishment of a wildlife corridor from the Estelle Reserve to the Cleveland National Forest as articulated in the Riverside County MSHCP.
- Coordinate efforts with the Santa Ana River Conservancy to implement integrated trail planning along the Santa Ana River in accordance with the Santa Ana Regional Trail Plan.

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5 Environmental Hazards

This chapter contains information on Corona's environmental hazards. It addresses the regulatory framework for natural resources, and existing conditions that inform the general plan and provide the setting for the environmental impact report.

5.1 INTRODUCTION

Ensuring public safety is a fundamental goal for Corona. All the benefits and public goods that Corona residents and businesses enjoy are difficult to achieve when public safety could be compromised. Potential risks to health, life, and property involve man-made and natural hazards. Corona, like much of southern California, is subject to many hazards. The 2017 California fire season and its impact on Corona and the surrounding region is just one tangible reminder of the potential threats of environmental hazards and the importance of preparedness and response to such emergencies.

To provide a foundation for the goals, policies, and programs for the General Plan update and the environmental setting for the Environmental Impact Report, this chapter explores the various natural and human-induced hazards in Corona. The key objective is to identify and evaluate natural and human-induced hazards that can impact the health, safety, and social well-being of a community.

This chapter includes an overview of the following hazards in Corona:

- Seismic and geologic hazards, including surface or nonsurface rupture, shaking, liquefaction, landslides, soil hazards, and other similar hazards.
- Flooding and inundation, including hazards associated with storm events, flooding, or dam failure.
- Human-caused hazards, including the transport, generation, or disposal of hazardous materials or waste products.
- Wildfire hazards, including hazards of the actual fire, postfire debris flow, and other associated hazards.
- Airport-related hazards primarily related to land use compatibility, aircraft strikes, and other related hazards.

Data and information for this chapter were compiled from a wide variety of state and federal agencies. State agencies include the California Department of Conservation, California Geological Survey, Office of Emergency Services, Department of Water Resources, Department of Forestry and Fire Protection (CAL FIRE), and others. Federal resources include the Federal Emergency Management Agency, Department of Transportation, and Federal Aviation Administration, among several others. The analysis contained herein relies on secondary research; no fieldwork was conducted.

5.2 GEOLOGIC AND SEISMIC HAZARDS

This section describes the geologic and seismic hazards in Corona, including the various state and local regulations affecting these hazards and then detailing specific geologic and seismic hazards present in Corona.

5.2.1 Regulatory Framework

Corona's regulatory framework for geologic and seismic hazards includes state law, the general plan, and municipal code. These primary regulations are described below.

Alquist Priolo Earthquake Fault Zone

The Alquist-Priolo (AP) Earthquake Fault Zoning Act of 1972 was intended to mitigate the hazard of surface fault rupture by prohibiting the location of structures for human occupancy across the trace of an active fault. The act delineates "Earthquake Fault Zones" along faults that are "sufficiently active" and "well defined." The act also requires that cities and counties withhold development permits for sites within an earthquake fault zone until geologic investigations demonstrate that the sites are not threatened by surface displacement from future faulting. Pursuant to this act, structures for human occupancy are not allowed within 50 feet of the trace of an active fault. As described later, several AP zones are delineated in Corona.

Seismic Hazard Mapping Act

Earthquakes can cause severe damage even if surface ruptures do not occur. The Seismic Hazard Mapping Act (SHMA) of 1990 was intended to protect the public from the hazards of nonsurface fault rupture from earthquakes, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure. The California Geological Survey prepares and provides local governments with seismic hazard zone maps that identify areas susceptible to nonsurface fault hazards. SHMA requires responsible agencies to approve projects within seismic hazard zones only after a site-specific investigation to determine if the hazard is present, and the inclusion, if a hazard is found, of appropriate mitigation(s). Riverside County has been issued maps showing nonsurface fault hazards, discussed later in this chapter.

California Building Code

Every public agency enforcing building regulations must adopt the provisions of the California Building Code (CBC), which is Title 24, Part 2 of the California Code of Regulations. The CBC provides minimum standards to protect property and public safety by regulating the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground shaking with specified probability of occurring at a site. A city may adopt more restrictive codes than state law based on conditions in their community.

Government Codes for Specific Building Types

While the CBC regulates the design and construction of most buildings and structures in a community, certain facilities have additional requirements from state and federal agencies. These include hospitals, schools, essential facilities, and lifeline infrastructure, listed below.

- **Acute care hospitals**. These facilities are required to meet the standards of the Alquist Hospital Seismic Act. Corona Regional Medical Center is upgrading facilities to address new requirements.
- **Public schools**. Public schools that are being constructed or rehabilitated are required to comply with standards under the Field Act, Division of State Architectural standards, and California Education Code § 17317.
- **Essential facilities**. Essential facilities (police, fire, emergency community facilities, etc.) must comply with the additional standards and requirements of the Essential Services Building Seismic Safety Act.
- **Lifeline infrastructure**. Bridges, utilities, dams/reservoirs, and other infrastructure must adhere to regulations of the Department of Water Resources, Department of Transportation, and Public Utilities Commission.

"Mobile Home Parks" and the "Special Occupancy Parks Act"

Mobile homes are prefabricated homes placed on piers, jackstands, or masonry block foundations. Floors and roofs are usually plywood, and outside surfaces are covered with sheet metal. Severe damage can occur when mobile homes fall off their supports, severing utility lines and piercing the floor with jack stands. The California Health and Safety Code governs mobile homes and special occupancy parks. In 2011, regulations were adopted that address park construction, maintenance, use, occupancy, and design. However, the amendments do not require earthquake-resistant bracing systems. Because the city has roughly 1,500 mobile homes (many of which are occupied by seniors), and mobile homes generally fare poorly in earthquakes, ensuring the safety of mobile home occupants is a concern.

California General Plan Law and OPR General Plan Guidelines

State law (Government Code § 65302) requires cities to adopt a comprehensive long-term general plan that includes a safety element. The safety element is intended to provide guidance for protecting the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified by the Public Resources Code §§ 2691 et. seq. and other geologic hazards known to the legislative body. The safety element must also include mapping of known seismic and geologic hazards from the California Geological Survey and a series of responsive goals, policies, and implementation programs to improve public safety.

Corona 2004 General Plan

The 2004 Corona General Plan has one goal that addresses seismic hazards. Goal 11.1 is established "to substantially reduce the known level of risk to loss of life, personal injury, public and private property damage, economic and social dislocation, and disruption of vital community services that would result from earthquake damage or other geologic disturbance." This goal is supported by six specific policies addressing seismic hazards. Erosion hazards are also addressed with respect to mining operations, floodway improvements, hillsides, and new development. Specific measures in the General Plan include, but are not limited to, the following:

- Require new development and redevelopment to be undertaken in a manner that follows current seismic and geologic hazard safety standards.
- Prohibit, unless findings are made, locating new essential facilities within 200 feet of an active fault or potentially active fault.
- Prohibit the location of new sensitive land uses such as schools, hospitals, and elder-care facilities in proximity to active or potentially active faults
- Protect community safety and essential services by reducing the potential for property damage from liquefaction and by collecting detailed information on liquefaction susceptibility throughout the City.

Corona Municipal Code

The Corona Municipal Code and other City development policies and procedures provide guidance on addressing specific geologic and seismic hazards in Corona. Among others, these include the following:

- **Title 15, Buildings and Construction**. These codes address grading standards, excavation, fills and water courses, and applicable requirements for preparing geotechnical reports and seismicity reports for all new development.
- **Public Works Water Infrastructure Design Standards**. These require a geotechnical and design engineer to assess pipeline designs, determine the presence of corrosive soils, and recommend the appropriate cathodic protection measures.
- **Reduction of Hazards in Existing Structure**. This includes compliance with regulations for unreinforced masonry structures in accordance with "Unreinforced Masonry Law," found in California Government Code §§ 8875 et seq.
- **Additional inspections**. Additional inspections for roof sheathing and structural shear panels or walls to ensure proper design and construction and further prevent damage resulting from an earthquake.

The City of Corona Building Official may place additional requirements upon the construction of infrastructure, buildings, and other improvements based on the findings from plan check, soils testing, and geotechnical investigations.

5.2.2 Existing Conditions

This section describes the local geologic setting and associated seismic and geologic hazards associated with the City's location, topography, soils, and faulting.

Geologic Setting

The City of Corona is situated within the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles depending on location. In general, the province consists of a northwest-southeast oriented complex of blocks separated by similarly trending faults. The basement bedrock complex includes Jurassic-age metavolcanic and metasedimentary rocks and Cretaceous-age igneous rocks of the Southern California batholith.

Corona extends along the northeastern front of the Santa Ana Mountains, a dominant feature of the northern Peninsular Ranges. The general cross-section consists of an anticlinal fold across the Whittier-Elsinore fault zone. The crest of the fold parallels the mountain's ridgeline with a gently dipping southwestern flank and a steep, down-faulted northeastern limb. Additional intermediate folding is superimposed on the major anticlinal feature. In general, younger Holocene and late Pleistocene alluvium is beneath much of the City, with some Cretaceous igneous bedrock on the eastern side, and some minor Tertiary sedimentary deposits along the southwestern edge.

The Peninsular Ranges Province is traversed by a group of subparallel and fault zones trending roughly northwest. Major active fault systems—San Andreas, San Jacinto, Whittier-Elsinore, and Newport-Inglewood fault zones—form a regional tectonic framework consisting primarily of right-lateral, strike-slip movement. Corona is situated between two major active fault zones—the Whittier-Elsinore Fault Zone to the southwest and the San Jacinto Fault to the northeast. Other potentially active faults located near the City of Corona include the San Jose, Cucamonga, Sierra Madre, Newport-Inglewood, and San Andreas faults

The Richter Scale is used to describe the magnitude (M) of an earthquake. Each one-point increase in magnitude (M) represents a 10-fold increase in earthquake wave size and a 30-fold increase in energy release (strength). For example, an M8 earthquake produces 10 times the ground motion amplitude of an M7 earthquake, 100 times that of an M6 quake, and 1,000 times the motion of a magnitude 5. However, the M8 earthquake is 27,000 times stronger than an M5 quake. Typically, earthquakes of M5 or greater are considered strong earthquakes capable of producing damage.

Table 5-1 provides a summary of the key faults that could produce significant earthquakes (exceeding M5) that would most impact Corona. The table also includes the maximum associated magnitudes of earthquakes along each fault. Figure 5-1 follows, showing the location of fault hazards and their proximity to Corona.

Table 5-1 Earthquake Faults near Corona

Fault	Description of Earthquake Fault Zone	Maximum Hazard
Whittier-Elsinore Glen Ivy Segment	The Whittier-Elsinore Fault Zone is the closest major fault system, the northern portion of which is the Glen Ivy segment. This segment is located on the southwest portion of the City. Dominant movement along this fault is right-lateral strike-slip. The Glen Ivy segment is zoned under the Alquist-Priolo Earthquake Fault Zone Act.	6.8 M
Chino-Central Avenue	The Chino-Central Avenue Fault crosses west Corona. The fault branches away from the Elsinore (Glen Ivy) Fault and extends northwest 13 miles through the Prado Basin and into the Puente Hills. Dominant movement along the fault is right-reverse oblique slip. The Chino Fault is zoned under the Alquist-Priolo Earthquake Zone Act.	6.9 M
Whittier Fault Zone	The Whittier Fault Zone extends from Whittier Narrows in Los Angeles County, southeasterly to Santa Ana Canyon where it merges with the Elsinore Fault Zone. The Whittier Fault Zone is within 1 mile of the western edge of the City. The Whittier Fault is active and is zoned under the Alquist-Priolo Earthquake Fault Zone Act.	6.8 M
San Jose	The San Jose Fault is 12 miles long, extending southwest and west from near the mouth of San Antonio Canyon on the southern front of the San Gabriel Mountains about 18 miles north of the City. The fault is characterized by left-lateral reverse oblique-slip movement and was responsible for the 1990 M 5.4 Upland earthquake.	6.9M
Cucamonga	The Cucamonga Fault is the eastward extension of the Sierra Madre Fault Zone and is located 20 miles north of the City, extending 17 miles long, from Duncan Canyon to San Antonio Heights along the San Gabriel Mountains. The fault is characterized by reverse dip-slip movement. The Fault is active and within an Alquist-Priolo Earthquake Fault Zone.	7.0 M
San Jacinto	The Valley segments of the San Jacinto Fault are the most active in southern California. The fault zone extends 130 miles and is characterized by right-lateral strike-slip movement. The San Jacinto Fault is considered active and is capable of a maximum moment magnitude 6.9 earthquake. The fault is zoned under the Alquist-Priolo Earthquake Fault Zone Act.	6.9 M
Sierra Madre Fault Zone	Located 21 miles northwest of the City, this fault zone extends 35 miles long, from Claremont and following the southern front of the San Gabriel Mountains to San Fernando. This fault zone is characterized by reverse dip-slip movement. The western portion of the Sierra Madre Fault is zoned under the Alquist-Priolo Earthquake Fault Zone Act.	7.0 M
Newport-Inglewood	The Newport-Inglewood Fault Zone consists of a series of disconnected, northwest-trending fault segments which extend from Los Angeles, through Long Beach and Torrance, to Newport Beach and offshore south past Oceanside. Although no major rupture has occurred since the 1933 Long Beach quake (6.4 M), the fault is considered active.	7.1 M
San Andreas	The San Bernardino and Southern segments of the San Andreas Fault are located about 28 miles northeast of the City. Past work estimates that the recurrence interval for a M 8.0 earthquake along the entire fault zone is 50–200 years, and a 140–200-year recurrence interval for a M 7.0 earthquakes along the southern fault zone segment.	7.5 M+

Source: Corona General Plan Technical Report, 2004.

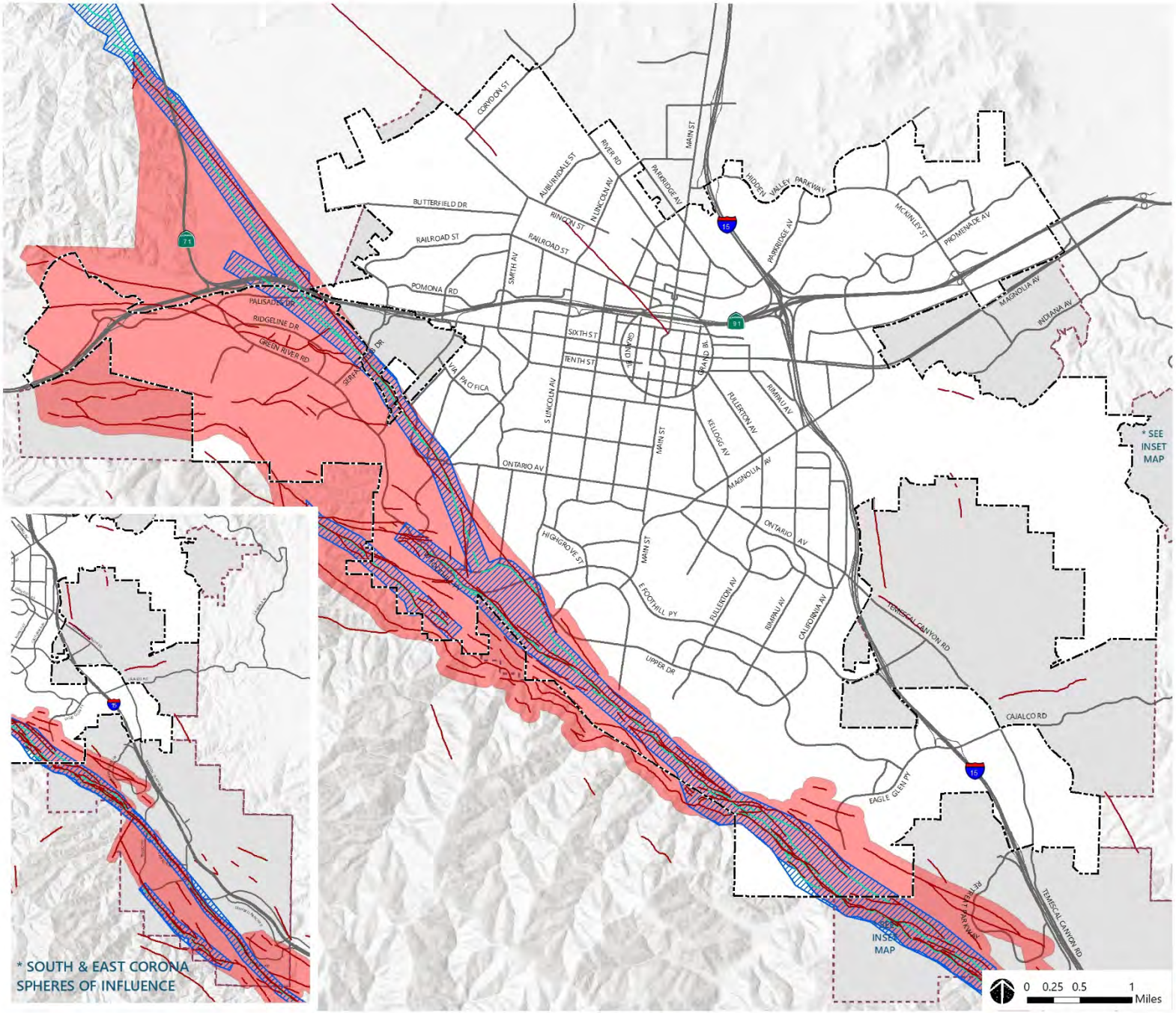


Figure 5-1
Fault Hazards

Legend

Faults

- Identified by State (Alquist-Priolo)
- Identified by Riverside County

Elsinore Fault Zone

- Identified by State (Alquist-Priolo)
- Identified by Riverside County
- City Boundary
- Sphere of Influence Areas

Source:
County of Riverside, 2013

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Seismic Hazards

Historically, the City of Corona has not experienced a major destructive earthquake. However, based on a search of earthquake databases of the United States Geological Survey (USGS) National Earthquake Information Center (NEIC), several major earthquakes (magnitude 5.8 or more) have been recorded within approximately 60 miles of the City since 1769. The latest of these were the Northridge earthquake and Granada Hills aftershock in 1994, about 60 miles from the City.

The primary seismic hazards related to earthquakes are summarized below:

Surface (Fault) Rupture

Seismic activity has been known to cause surface rupture, or ground displacement, along a fault or within the general vicinity of a fault zone. In accordance with the Alquist-Priolo Earthquake Fault Zoning Act (AP Zoning Act), the State Geologist has established fault zones along known active faults in California. In Corona, much of the western portion of the City and SOI is within a Riverside County Fault Zone. Two active surface faults in Corona are mapped and zoned under the AP Zoning Act. Both the Chino Fault and the Glen Ivy segment of the Elsinore Fault could produce earthquakes of 7.0M, causing ground rupture in the City and its SOI.

Primary ground rupture usually results in a relatively small percentage of the damage caused by an earthquake. Primary fault rupture is rarely confined to one fault; it often spreads out into complex patterns of secondary faulting and ground deformation. Secondary faulting involves a web of interconnected faults that rupture in response to a primary rupture. Secondary ground deformation can include fracturing, shattering, warping, tilting, uplift, and/or subsidence. Such deformation may be relatively confined along the rupturing fault or spread over a large region. Deformation and secondary faulting can also occur without primary ground rupture, as in the case of ground deformation above a blind (buried) thrust fault.

Strong Seismic Ground Shaking

Earthquakes are common to southern California, and geologic evidence is used to determine the likelihood and magnitude of ruptures along a fault. Peak horizontal ground acceleration (PHGA) values that could be expected in Corona are based on types and characteristics of fault sources, distances and estimated maximum earthquake magnitude, and subsurface site geology. The PHGA estimate depends on the method of determination. The maximum magnitude (Mmax) is considered the largest earthquake expected to occur along a fault and is based in part on fault characteristics (length, style of faulting and historic seismicity). The Elsinore Fault is the dominant active fault that could significantly impact the City.

Ground motion will generally amplify as it passes from the bedrock and through the softer, deep alluvial deposits. The PHGA at the surface of a site depends substantially on the thickness of sedimentary deposits beneath the site. Based on USGS estimates for the Corona area and a 1.0-second spectral acceleration, site effects from the geologic units underlying the City may be three times the effect of crystalline bedrock at the same location. The areas which would experience greater shaking include central Corona, Temescal Valley, and northern Corona.

Seismic Terms

Ground shaking: Refers to vibration of the ground from an earthquake. Shaking above a value of "5" on the Richter Scale is known to damage structures.

Liquefaction: Strong ground shaking in sediment layers that are saturated with groundwater and where soils lose strength and behave as a fluid.

Landslides: Refers to downward movement of soil and/or rock. If this includes water, mud, or debris, it is referred to as a mud/debris flow.

Fault: A fracture in the earth's crust forming a boundary between masses of rock or soil where movement between those masses has occurred.

Surface fault rupture: Refers to movement on a fault that displaces the ground surface or triggers surface rupture along a series of faults.

Liquefaction and Related Ground Failure

Liquefaction happens strong earthquake shaking causes sediment layers that are saturated with groundwater to lose strength and behave as a fluid. This subsurface process can lead to near-surface or surface ground failure. Surface ground failure is usually expressed as lateral spreading, flow failures, ground oscillation, and/or general loss of bearing strength. Sand boils (injections of fluidized sediment) commonly accompany these distinct types of failure. Liquefaction can damage building foundations, structures, and infrastructure, leading to collapse.

Susceptibility to liquefaction typically depends on 1) the intensity and duration of ground shaking; 2) the age and textural characteristic of the alluvial sediments; and 3) the depth to the groundwater. Loose, granular materials at depths of less than 50 feet, with silt and clay contents of less than 30 percent, and saturated by relatively shallow groundwater table are most susceptible to liquefaction. These geological conditions are typical in parts of southern California, in valley regions and alluvial floodplains. In Corona, the areas with the highest potential for liquefaction are in North Corona and to the north and east of the Temescal Wash (see Figure 5-2, *Liquefaction Hazards*).

Slope Failure (Landslides)

Landslides are perceptible downward movements of soil, debris, rock, or a combination of these under the influence of gravity. Landslide materials are commonly porous and very weathered in the upper portions and margins of the slide. They may also have open fractures or joints. Slope failures can occur during or after periods of intense rainfall or in response to strong seismic shaking. Landslides are distinguished from minor debris flows because in a landslide, the majority of material moved is bedrock materials, and a minor debris flow is the surface slippage of soil. As discussed later in this chapter, serious fire events can lead to conditions conducive to debris flows.

Landslides, debris flows, or any movement of earth or rock are most common in areas of high topographic relief, such as steep canyon walls or steep hillsides. Areas that have experienced or are susceptible to slope failure have been mapped by the California Department of Conservation. In the City and SOI, these include the northeastern front of the Santa Ana Mountains, the El Sobrante/Gavilan Hills, Eagle Valley, Sierra Del Oro area, and other areas with steep hillsides, canyons, and ravines. Northern Corona is also subject to potential landslides, though to a lesser extent. Debris flows and erosion can also occur in areas undergoing mineral extraction.

Figure 5-3, *Landslide Hazards*, shows the location of areas susceptible to landslides.

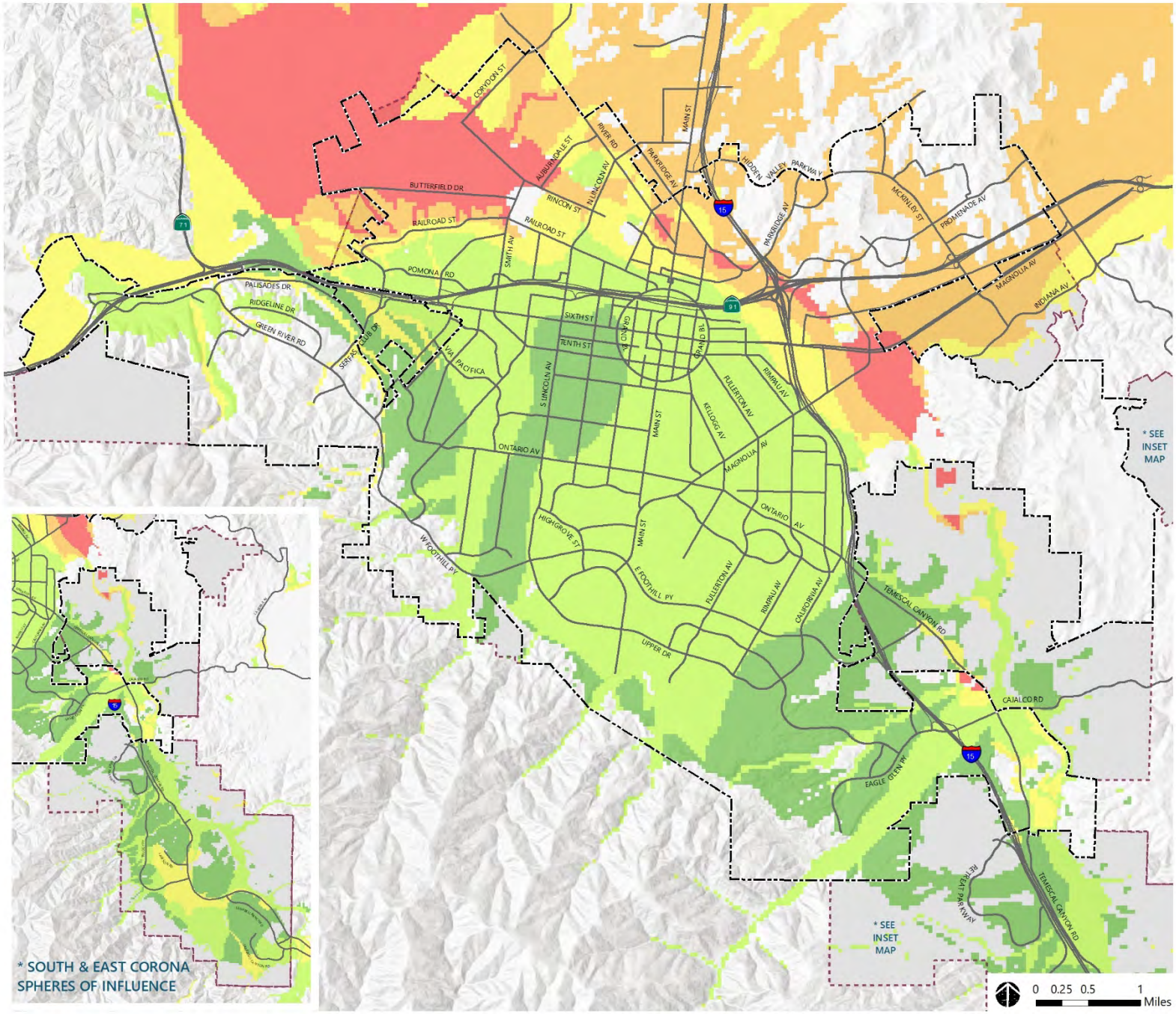


Figure 5-2
Liquefaction Hazards

Legend

Susceptibility

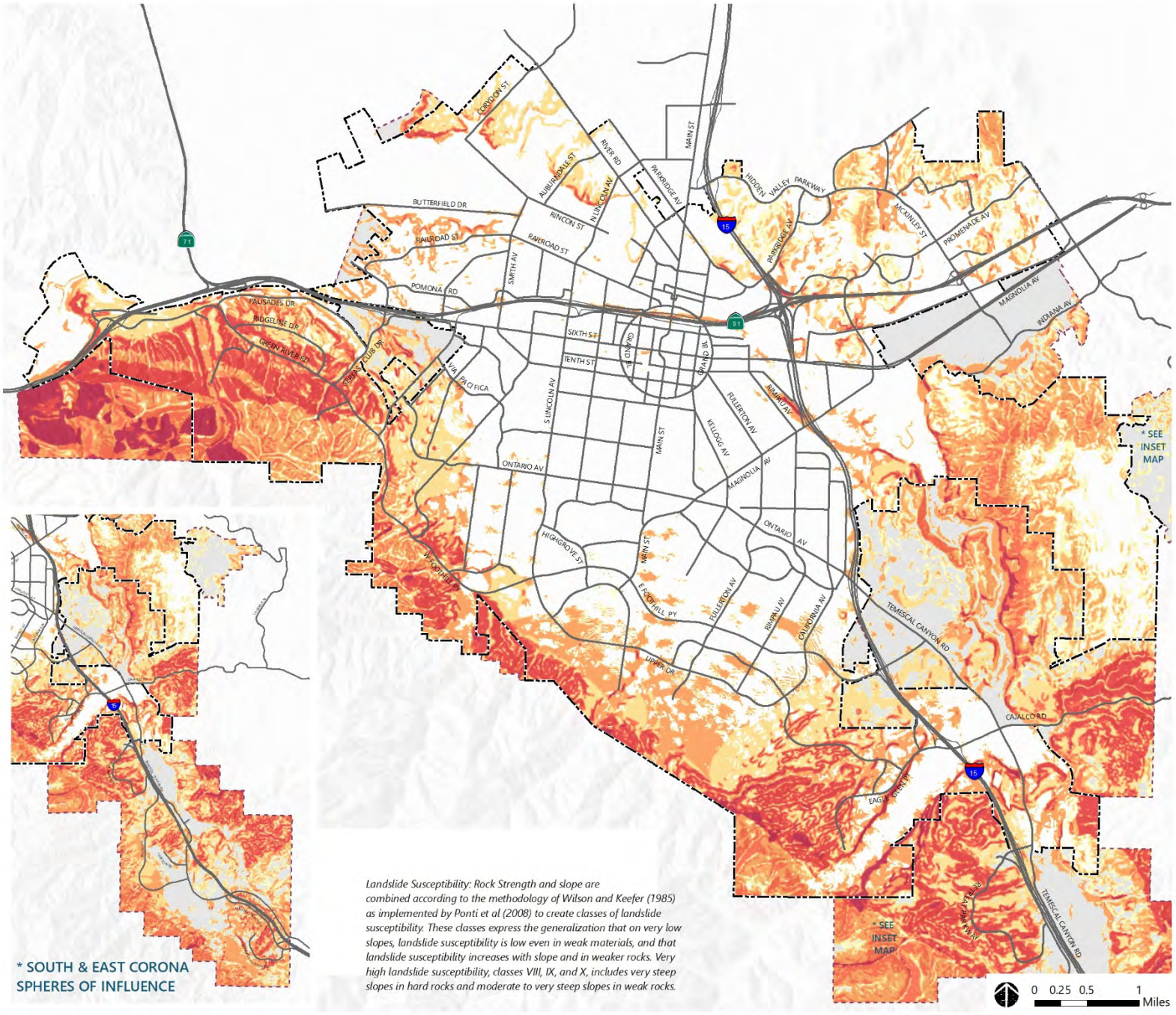
- Very High
- High
- Moderate
- Low
- Very low
- City Boundary
- Sphere of Influence Areas

Source:
County of Riverside, 2017

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Figure 5-3 Deep-Seated Landslides Hazards



Legend

- City Boundary
- Sphere of Influence Areas

ROCK STRENGTH

SLOPE CLASS	1	2	3
1	0	0	0
2	0	V	VII
3	0	V	VII
4	III	VIII	IX
5	VI	IX	X
6	VII	IX	X
7	VIII	IX	X
8	VIII	IX	X

LANDSLIDE SUSCEPTIBILITY CLASSES

0 III V VI VII VIII IX X

increasing susceptibility

Landslide Susceptibility: Rock Strength and slope are combined according to the methodology of Wilson and Keefer (1985) as implemented by Ponti et al (2008) to create classes of landslide susceptibility. These classes express the generalization that on very low slopes, landslide susceptibility is low even in weak materials, and that landslide susceptibility increases with slope and in weaker rocks. Very high landslide susceptibility, classes VIII, IX, and X, includes very steep slopes in hard rocks and moderate to very steep slopes in weak rocks.

Source:
Deep-Seated Landslide Susceptibility (CGS Map Sheet 58) C.J. Wills, F.G. Perez, C. I. Gutierrez- California Geological Survey, 2011

For more information please see:
http://www.conservation.ca.gov/cgs/information/publications/ms/documents/ms58.pdf

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Geologic Hazards

Based on available studies, the geologic hazards most likely to occur in the City of Corona include expansive soils, corrosive soils, settlement/collapsible soils (to a lesser degree), and debris flows (particularly following a wildfire event). Each of these potential hazards is discussed below, followed by maps showing vulnerable locations.

Expansive Soils

Expansive and collapsible soils are two of the most widely distributed and costly of geologic hazards. Expansive soils will shrink or swell as the moisture content decreases or increases. Expansive soil and rock are typically characterized by clayey material that shrinks as it dries and swells as it becomes wet. Homes, infrastructure, and other structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Expansive soils are also known to cause damage to the foundation of structures.

Based on the presence of alluvial materials within the City, there is some potential for expansive soils throughout Corona, as the area is known for clayey soils. As discussed in the natural resources chapter, Corona has been noted for its clay mineral resources. Expansive soils are possible wherever clays and elastic silts may be present, including alluvial soils and weathered granitic and fine-grained sedimentary rocks. Expansive soils are tested prior to grading as part of a soil engineering report—as required by the CBC and the City of Corona—and are mitigated as necessary.

Corrosive Soils

Corrosive soils contain chemical constituents that may cause damage to construction materials such as concrete and ferrous metals. One such constituent is water-soluble sulfate, which, if in high enough concentrations, can react with and damage concrete. Electrical resistivity, chloride content, and pH level are all indicators of a soil's tendency to corrode ferrous metals. High chloride concentrations from saline minerals can corrode metals (carbon steel, zinc, aluminum, and copper). Low pH and/or low resistivity soils could corrode buried or partially buried metal structures.

Soils throughout the majority of Corona have been found to be highly corrosive to metals and moderately corrosive to concrete. Typical mitigation for corrosive soil includes corrosion-resistant coatings. Corrosive soils for concrete and/or metals are often addressed through techniques that include cathodic protection, use of specialty concrete overlays, and other techniques. The City's Engineering Standards require that proposed projects include soil investigations and cathodic protection for metal piping when corrosive soils are encountered.

Subsidence

Land sinking or subsidence is generally related to substantial overdraft of groundwater or petroleum reserves from underground reservoirs. The northwest portion of the City is partially within the Prado-Corona oil field, and water production wells are also present within the planning area boundaries. Production in the Prado-Corona Oil Field declined from more than 10,000 barrels a year in the 1980s to none in the 2010s. Based on the relatively small size of the oil field, its limited production volumes, and the

Geologic Terms

Corrosive Soils: Refers to a classification of soils containing chemical properties that react with construction materials and that may damage foundations and buried pipelines.

Debris Flow: water-laden mass of rock fragments, soil, and mud moves rapidly downslope that occurs following prolonged or heavy rainfall, or on hillsides that have limited vegetation, such as after a brushfire.

Expansive Soils: Refers to the ability of soils to shrink or swell due to variations in moisture content. Expansive soils expand when water is added and contract when the soils dry.

Settlement: Seismic settlement is the lowering of the ground surface as a result of strong, earthquake-induced shaking and liquefaction.

Subsidence: Subsidence is the permanent collapse of the pore space within a soil or rock and downward settling of the earth's surface relative to its surrounding area.

presence and use of groundwater spreading basins in the area, subsidence is not considered a significant potential hazard on the City.

According to the Department of Water Resources, there are no known or reported locations of subsidence in Corona. The probability of subsidence is generally low in the majority of the suburban portions of Corona, north of Cajalco Road. A small part on the westernmost portion of Corona along SR-91 has a high potential for subsidence. While the City's northern section has a medium to high potential for subsidence, it is unlikely given the lack of active wells. Finally, there is insufficient information regarding subsidence potential in the Temescal Canyon area.

Settlement and/or Collapse

The potential hazard posed by seismic settlement and/or collapse in the City is considered to be moderate based on the compressibility of the underlying alluvial soils and the presence of shallow groundwater. Strong ground shaking can cause settlement of alluvial soils and artificial fills if they are not adequately compacted. Because unconsolidated soils and undocumented fill material are present in the City, seismically induced settlement and/or collapse are possible. Site-specific mass grading and compaction, which would occur as part of future development, would mitigate any potential impacts from settlement and/or collapse within the City.

Debris Flow

The term landslide is the general term for the wide variety of processes and landforms that involve the downslope movement of masses of soil and rock under gravity. One form of a landslide, called a debris flow, is a typically shallow, downslope-moving mass of rock fragments, soil, and mud, with more than half of the particles being larger than sand size. Debris flows typically occur rapidly and with no warning. As a result, debris flows are particularly dangerous to the public. Debris flows can originate from steep slopes with vulnerable materials, and also from landslide deposits.

The western and southwestern portions of the City, including the south SOI, have moderate to high susceptibility to debris flows due to the steep slopes of the Santa Ana Mountains. Small areas within the eastern portion of the City have some susceptibility to debris flows, such as the steep slopes of the El Sobrante Hills and Gavilan Plateau. Debris flows are more likely in areas that have been recently burned. Debris basins have been built at the base of the hills on the City's western front to provide protection from periodic debris flows.

Figure 5-4, *Soil Hazards*, shows the location of corrosive soils in Corona. Figure 5-5, *Debris Flow Hazards*, shows documented debris flows.

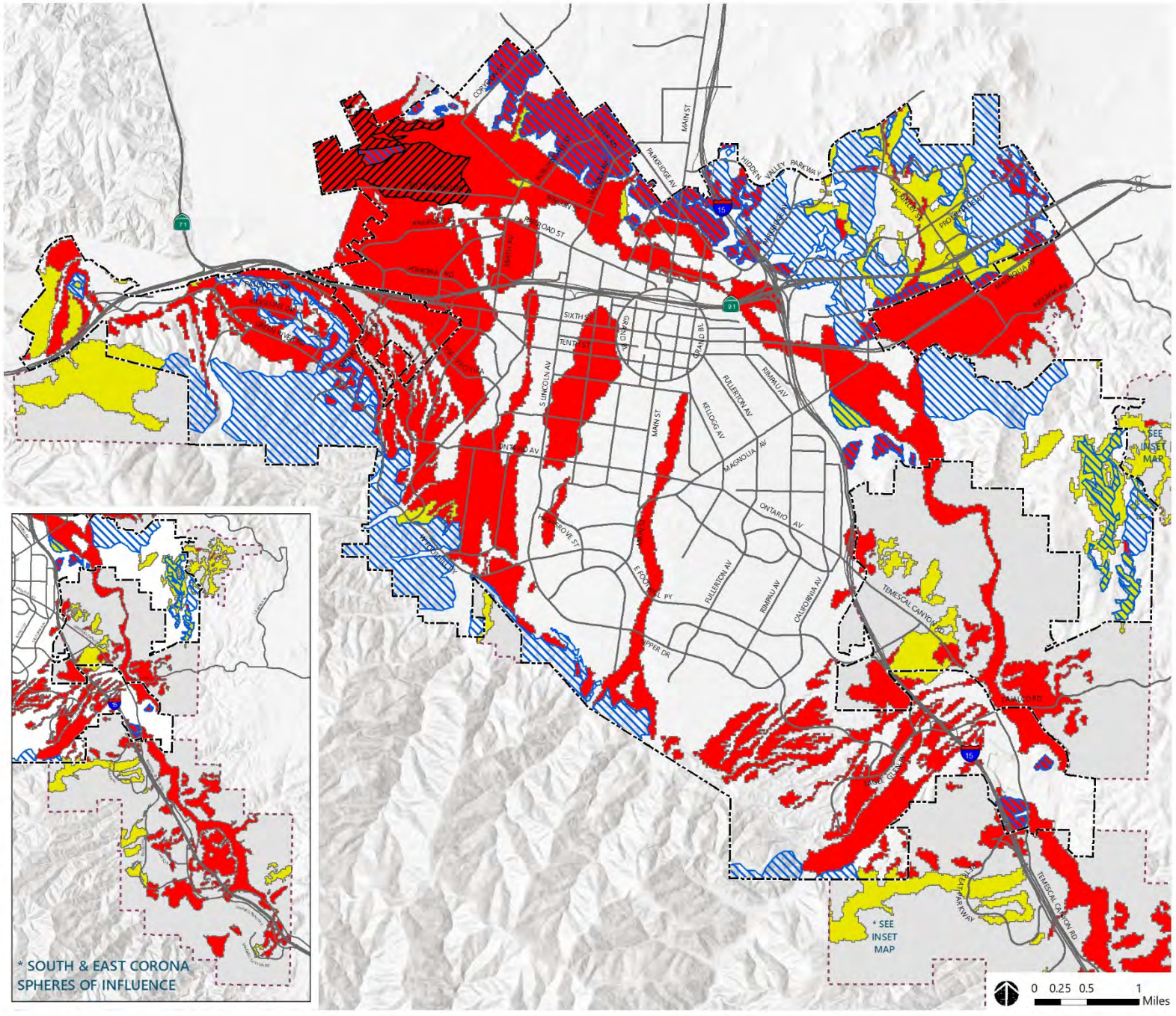


Figure 5-4
Soil Hazards

Legend

Corrosive to Concrete

- Soil Highly Corrosive
- Soil Moderately Corrosive

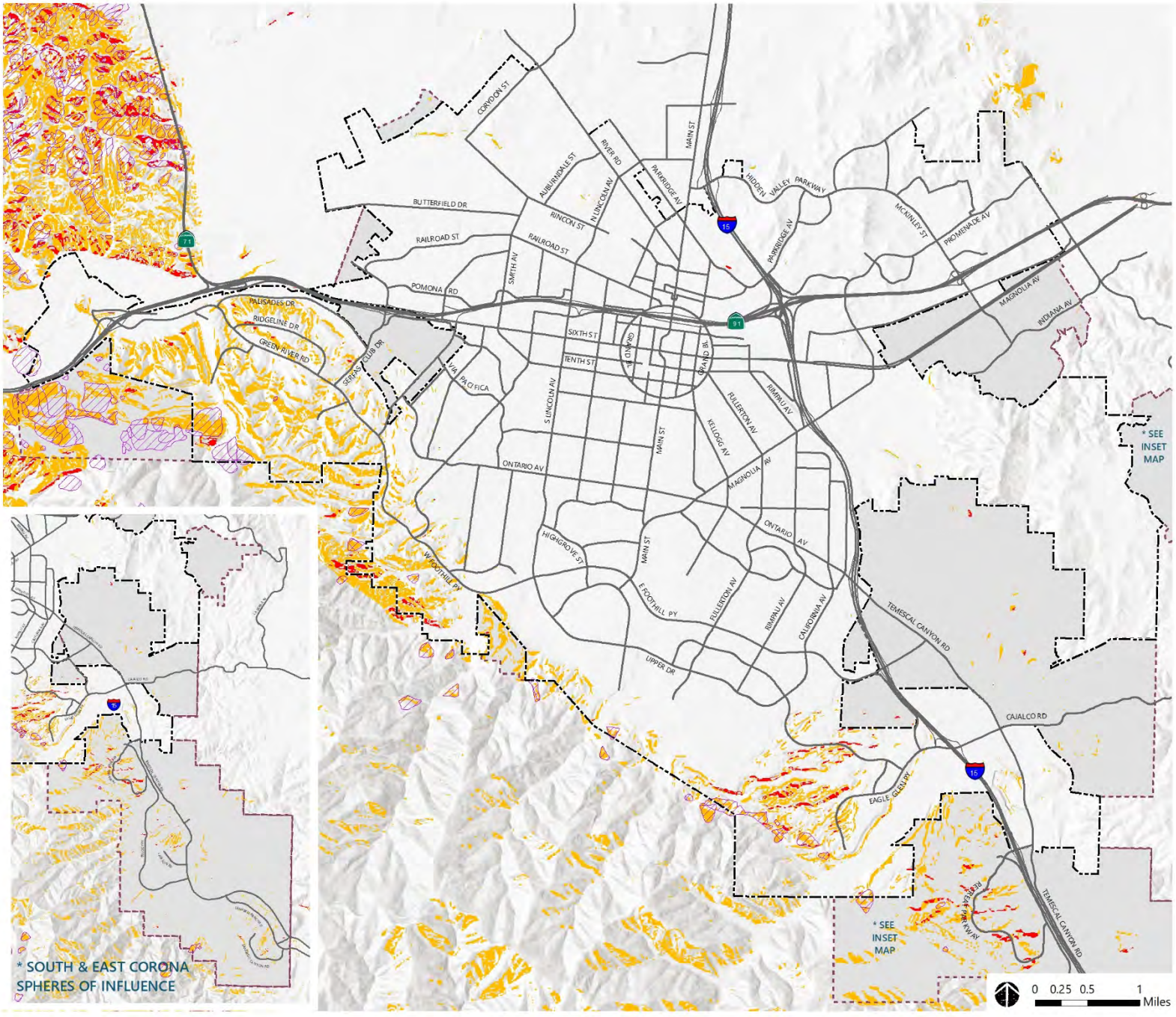
Corrosive to Metal

- Soil Highly Corrosive
- Soil Moderately Corrosive
- City Boundary
- Sphere of Influence Areas

Source:
USDA, National Resource Conservation Service, 2018

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N-269

Figure 5-5 Debris Flow Hazard

Legend

- Landslide Deposits

Soil Slip Susceptibility

- Moderate Susceptibility
- High Susceptibility
- City Boundary
- Sphere of Influence Areas

Source:
Morton, 2004. Preliminary Digital Geologic Map of the Santa Ana 30' X 60' Quadrangle, Southern California, Version 2.0; Morton, et al.,2003. Preliminary Soil-Slip Susceptibility Maps, South-western California

CORONA General Plan

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5.3 FLOODING HAZARDS

Flood hazards include risks to property, life, and the environment caused by heavy rainfall, dam inundation, mudflows, and structural damage to water reservoirs.

5.3.1 Regulatory Framework

Corona's regulatory framework for dam and inundation hazards includes federal and state law, the general plan, and municipal code requirements. These primary regulations are described as follows.

National Flood Insurance Program

The National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 mandate the Federal Emergency Management Agency (FEMA) to evaluate flood hazards. FEMA provides Flood Insurance Rate Maps (FIRMs) for local and regional planners to promote sound land use and floodplain development, identifying potential flood areas based on the current conditions. To delineate a FIRM, FEMA conducts engineering studies referred to as Flood Insurance Studies (FISs). The most recent FIS and FIRM were completed and published for the City in 2014. From these studies, FEMA designates Special Flood Hazard Areas (SFHAs). The Flood Disaster Protection Act also requires owners of all structures in identified SFHAs to purchase and maintain flood insurance as a condition of receiving federal financial assistance

National Flood Insurance Act

The National Flood Insurance Act also created the National Flood Insurance Program to offer flood insurance to homeowners, renters, and businesses if their community participates in the program and adopts floodplain management ordinances that meet the requirements and criteria of FEMA. The Flood Disaster Protection Act requires owners of structures in SFHAs to purchase and maintain flood insurance as a condition for receiving federal assistance. The National Flood Insurance Reform Act of 1994 strengthened the National Flood Insurance Program by providing grants for flood mitigation projects. The act also established the Community Rating System for crediting communities that implement measures to protect the natural and beneficial functions of their floodplains as well as manage erosion hazards.

Federal Urban Flooding Awareness Act

In recent years, communities have become concerned with localized flooding. In 2015, Congress passed HR 2616, Urban Flooding Awareness Act of 2015. Under this bill, the National Academy of Sciences will conduct a study on urban flooding. It defines "urban flooding" as the inundation of property in a built environment, particularly in more densely populated areas, caused by rain falling on increased amounts of impervious surface and overwhelming the capacity of drainage systems. The bill directs the National Academy of Sciences to evaluate the latest research, laws, regulations, policies, best practices, procedures, and institutional knowledge regarding urban flooding. The findings from this assessment will direct future federal policies on identifying, preventing, and mitigating urban flooding.

Flooding Terms

Dam Inundation Zone: A defined area downstream from any dam or reservoir that could be flooded in the event of a failure of the structure.

Floodplain: An area adjacent to a river, lake, stream, or water body that is subject to flooding.

Special Flood Hazard: Area that could be inundated by a flood having a 1 percent chance of being equaled or exceeded in any year (aka the 100-year flood).

Moderate Flood Hazard: An area having a chance of flooding between the limits of the base 100-year flood and 500-year flood.

Urban Flood: Inundation of land or property in a built environment, caused by rainfall overwhelming the capacity of local storm drainage systems.

California Department of Water Resources

The California Department of Water Resources (DWR) collects climate data, conducts flood forecasting, plans flood emergency response activities, and coordinates collaboration between federal, state, and local governments related to flood events. The Statewide Flood Management Planning Program produces reports on minimizing flood risks and implements flood planning tasks outlined in the California Water Plan. DWR has also identified potential 100-year floodplains in every community that have yet to be formally recognized and mapped by FEMA.

DWR, along with the California Office of Emergency Services, is responsible for addressing the safety of dams to protect communities from inundation. The Division of Dam Safety is responsible for reviewing and approving plans and specifications for the design of dams and overseeing construction to ensure compliance with appropriate standards. Reviews include site geology, seismic setting, site investigations, construction material evaluation, dam stability, hydrology, hydraulics, and structural review of appurtenant structures. In addition, the Division inspects dams on a yearly schedule to ensure structures are maintained in a safe manner.

California General Plan Law

California Government Code §65302 requires general plans to detail flooding risks and hazards, including dam inundation, flood zones, and other flood-related hazards. In the latter part of 2007, the California Legislature also passed a series of flood legislation bills supporting the integration of local land use planning and mitigation measures in statewide floodplains. Taken together, these bills require cities and counties to:

- Employ the land use element of the general plan to identify, set aside, and annually review areas subject to flooding identified by floodplain mapping prepared by FEMA and DWR.
- Identify in the conservation or other general plan element the rivers, creeks, streams, flood corridors, riparian habitat, and land within a community that may accommodate floodwaters for the purposes of stormwater management.
- Identify flooding hazards due to dam and levee inundation and other flooding risks; structures located within or affected by potential flooding; and local, state, and federal agencies responsible for addressing flooding.
- Identify existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities. Locate, when feasible, new essential public facilities outside of SFHAs or identify methods to minimize damage if facilities are located there.
- Establish in the safety element (and other elements that must be consistent with it) a set of comprehensive goals, policies, and feasible implementation measures for protection of the community from unreasonable risks of flooding.

Corona 2004 General Plan

The Corona General Plan contains several goals to address the issues of flooding, dam inundation, and urban flooding. The Public Health Safety Element addresses flooding hazards in Goal 11.2, to reduce the potential risk of flood hazards to community property and human life. This goal is supported by 11 specific policies, including a prohibition of building structures within the 100-year flood zone unless appropriate mitigations are included to address the risk of flooding. The Land Use Element protects areas needed for floodways through specific designations, including the open space and public and institutional land use designation.

The Public Facilities and Infrastructure Element also addresses flooding, but more from a storm drainage and infrastructure perspective. Goal 7.6 is to establish and maintain adequate planning, construction, maintenance, and funding for storm drainage and storage control facilities to support permitted land uses. These goals and supporting policies are intended to ensure that the storm drainage system is constructed and maintained to provide protection from urban flooding hazards in Corona. Supplemental master plans are prepared and updated by the City Public Works Department to implement these objectives consistent with state law.

Corona Municipal Code

The Corona Municipal Code contains a variety of regulations designed to address different types of flood hazards in the community. Title 18, Floodplain Management ordinance, establishes regulations to promote the public health, safety, and general welfare and to minimize public and private losses due to flooding in specific areas of the city. Specific regulations of the ordinance include:

- Delineation of special flood hazard areas in a FEMA report entitled Flood Insurance Study for the City of Corona, dated November 1977.
- Prohibition of any building activity (new construction, alteration, rehabilitation, etc.) within flood hazard areas without full compliance with this title.
- Adherence to specific development review applications, review and inspections, and proof of adherence to local, state, and federal requirements.
- Compliance with standards for construction, utilities, subdivisions, manufactured homes, recreational vehicles, and floodways in special flood hazard areas.

These City implements “floodplain combining zones” in combination with base zones. The FP-1 zone applies to properties that lie within a primary floodplain zone. The secondary floodplain zone (FP-2) applies to properties which lie within areas where inundation may be caused by overflow and backwater, which is relatively free from any current. The tertiary floodplain zone (FP-3) applies to properties that are within a primary or secondary floodplain but are protected by man-made dikes or levees. Specific regulations apply for properties and development in each of these zones.

5.3.2 Existing Conditions

The section discusses the existing setting for flood hazards in Corona. The most prevalent potential flooding hazards are dam/reservoir inundation, riverine flooding, mudflows/debris flows, and urban flooding.

Regional Setting

The watershed characteristics of Corona vary significantly—from the alluvial fan at the north end adjacent to the Prado Dam Basin to abruptly rising terrain of the Santa Ana Mountains on the City's southwest. The general drainage pattern flows in a northwesterly direction toward the Santa Ana River. Substantial flows reach the mouths of the canyons and then spread out on the alluvial fan formed by several watercourses draining the mountains. The alluvial fan runs northerly at an average downgrade of 4%, from an elevation of 1,500 feet at the toe of the mountains to an elevation of 600 feet along Temescal Wash. Several major watercourses provide some protection against major flood flows from runoff generated in watersheds south of the City.

The City of Corona is in the regional Santa Ana River Watershed, a flood control zone monitored by the Santa Ana Regional Water Quality Board that covers portions of the counties of Riverside, Orange, and San Bernardino. Within Riverside County, this regional watershed is subdivided into the Santa Ana Subwatershed (that the City is in) and the adjacent San Jacinto River Subwatershed. The Santa Ana Subwatershed consists of the Santa Ana River and its tributaries; the San Jacinto River Subwatershed includes the San Jacinto River and its tributaries, which overflow into the Santa Ana River only in high-volume storm events.

The Santa Ana Subwatershed is further subdivided into smaller subwatersheds based on major tributary channels that feed into the Santa Ana River. The City lies within two of these smaller subwatersheds: the Middle Santa Ana River subwatershed and the Temescal subwatershed.

- **Middle Santa Ana.** The Middle Santa Ana River subwatershed is located in the northwest corner of Riverside County and covers a total tributary area of 170 square miles that generally drains westwards toward the Santa Ana River. Tributaries to this subwatershed include: Temescal Creek, Tequesquite Arroyo (Sycamore Creek), Day Creek, and San Sevaine Creek.
- **Temescal.** The Temescal sub-watershed covers 250 square miles and is defined as the tributary area draining into the Temescal Creek that connects Lake Elsinore with the Santa Ana River. Tributaries to the Temescal Wash include Wasson Canyon Wash, Arroyo Del Toro, Stovepipe Canyon Wash, Rice Canyon Wash, and Lee Lake. A majority of Corona lies within this subwatershed, and the drainage channels that run through the City tie into the Temescal Wash.

Although Corona has been carefully planned, it is still subject to flood hazards due to its topography, weather, and drainage patterns. As described below, primary flood hazards include riverine flood, dam inundation, and urban floods.

Riverine Flood Hazards

Corona is bounded by the Santa Ana Mountains, Chino Hills, and lower-lying hills and the Gavilan Plateau to the east. Other major waterways generally flow southward through the community, or downward from slopes, joining with the Temescal Wash. More recent flooding occurred in 1993, 1997, 2005 and 2010—particularly along the Santa Ana River, Prado Dam area, and Corona Municipal Airport. The following text describe flooding hazards in Corona and illustrate vulnerable areas in Figure 5-6.



Corona Municipal Airport flooding in 2010, retrieved from http://160knots.com/

SFHAs are often referred to as the 100-year zone, with a flood having a 1% chance of occurrence in any given year. Special flood hazard areas are in northwestern Corona, extending from Prado Dam to the Corona Municipal Airport, and westward through the Santa Ana Canyon adjacent to the Santa Ana River. Mabey Canyon Wash and Temescal Creek are also in the 100-year flood zone. Properties in this area are required to obtain flood insurance and comply with additional requirements in accordance with the Corona Municipal Code. The DWR also maps potential 100-year flood zones that have not been fully mapped but extend into Temescal Canyon.

Even more prevalent than the SFHAs are areas subject to moderate flood hazards. The A substantial portion of central Corona is within a moderate flood zone hazard, defined as an area that could be inundated by a flood having a 0.2% chance of occurrence in any given year. This includes areas around the Temescal Wash, Mabey Canyon Wash, Main Street Wash, and the Arlington Channel. Properties in this area are required to obtain flood insurance and comply with additional requirements in accordance with the Corona Municipal Code. Major flooding could occur along the Temescal Wash and in west Corona, as storm sheet flows could overwhelm existing channels.

Inundation Hazards

Inundation hazards typically result from a partial or complete failure of a dam. Causes of dam failure include flooding, earthquake, blockage, landslide, lack of maintenance, improper operation, poor construction, vandalism, and terrorism. It should be noted that the probability of a complete failure of a dam is remote. A dam failure event is extremely hazardous because it can occur quickly, with little warning. Areas directly below the dam are at the greatest risk. The area downstream of a dam that is potentially at risk for flooding if the dam fails is called the "dam inundation zone."

Dams are typically assigned one of three hazard ratings. A dam is considered a "high" hazard potential if it stores more than 1,000 acre-feet of water, is higher than 150 feet tall, and has the potential for downstream property damage and/or evacuation. These are dams where failure or misoperation would likely cause loss of human life. Dams are considered of "significant" hazard potential where failure or misoperation would not result in probable loss of human life, but could cause economic loss, environmental damage, disruption of lifeline facilities, or other impacts.

Table 5-2, *Reservoir Inundation Hazards*, lists each dam and its potential for causing damage in Corona. As noted earlier, dam operators must comply with several requirements to ensure that dams are operated and maintained in a safe manner.

Table 5-2 Reservoir Inundation Hazards

National ID	Dam/Reservoir	Year Built	Storage Capacity	Hazard Rating	Condition Assessment
CA01103	Mabey Canyon	1974	68 AF	High	Satisfactory
CA10022	Prado Dam	1941	295,581 AF	High	N/A
CA00797	Harrison Street	1954	208 AF	High	Satisfactory
CA00766	Lee Lake	1893	1,100 AF	Significant	Poor
CA00212	Lake Matthews	1938	182,000 AF	Ext. High	Satisfactory
CA00305	Mockingbird Cyn	1914	1,250 AF	High	Satisfactory
CA01179	Oak Street	1979	138 AF	High	Satisfactory

Source: Dams within Jurisdiction of the State of California, Department of Water Resources, 2017

The primary inundation hazard to Corona is Lake Mathews, located seven miles southeast of Corona in the Gavilan Hills. Two dams contain Lake Mathews. Failure of either dam would cause flooding along the Temescal Wash in the eastern and northeastern portions of the City. Should either of the two dams fail, inundation is 40 minutes to Corona city limits and about 65 minutes to the Prado Basin.

Figure 5-7, *Dam Inundation*, shows the inundation zones for each dam that presents a significant or high hazard rating in Corona.

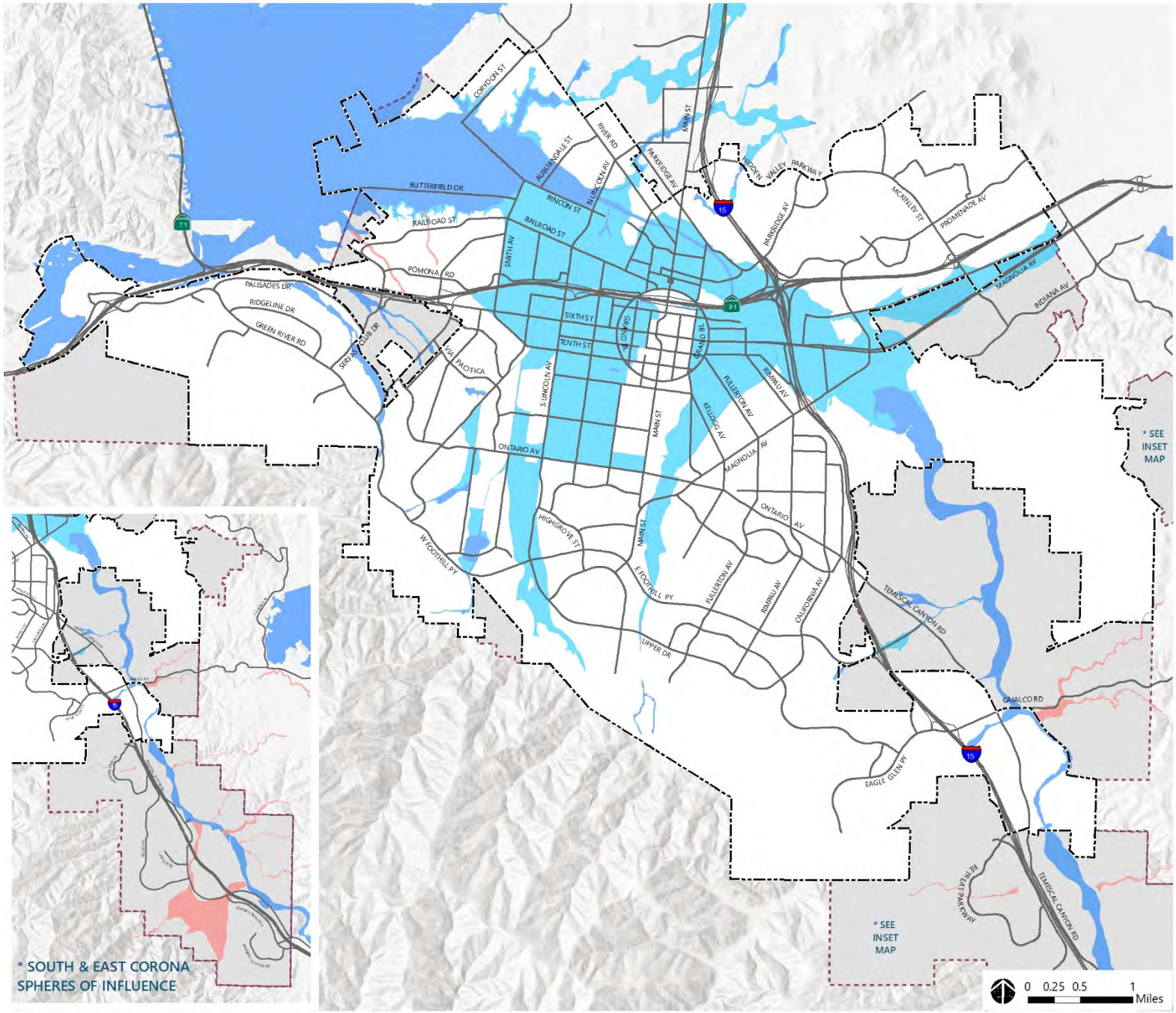


Figure 5-6
Flood Hazards

Legend

- 100-Year Flood Zone
- 500-Year Flood Zone
- DWR Awareness Floodplain
- City Boundary
- Sphere of Influence Areas

Notes:
100-year flood zone: Includes areas subject to a 100-year flood as defined by FEMA. This area is also referred to as a special flood harard area.

500-year flood zone: Includes areas between the limits of the 100-year floodplain and subject to a 500-year flood as defined by FEMA. This area is also referred to as a moderate flood hazard area.

DWR Awareness flood zone: Includes areas defined by the California DWR with a potential for a 100-year flood that may warrant further study to assess the risk of flooding.

This map does not have the official status

Source:
Department of Water Resources (DWR, 2016)
Federal Emergency Management Agency (FEMA, 2016)

CORONA General Plan

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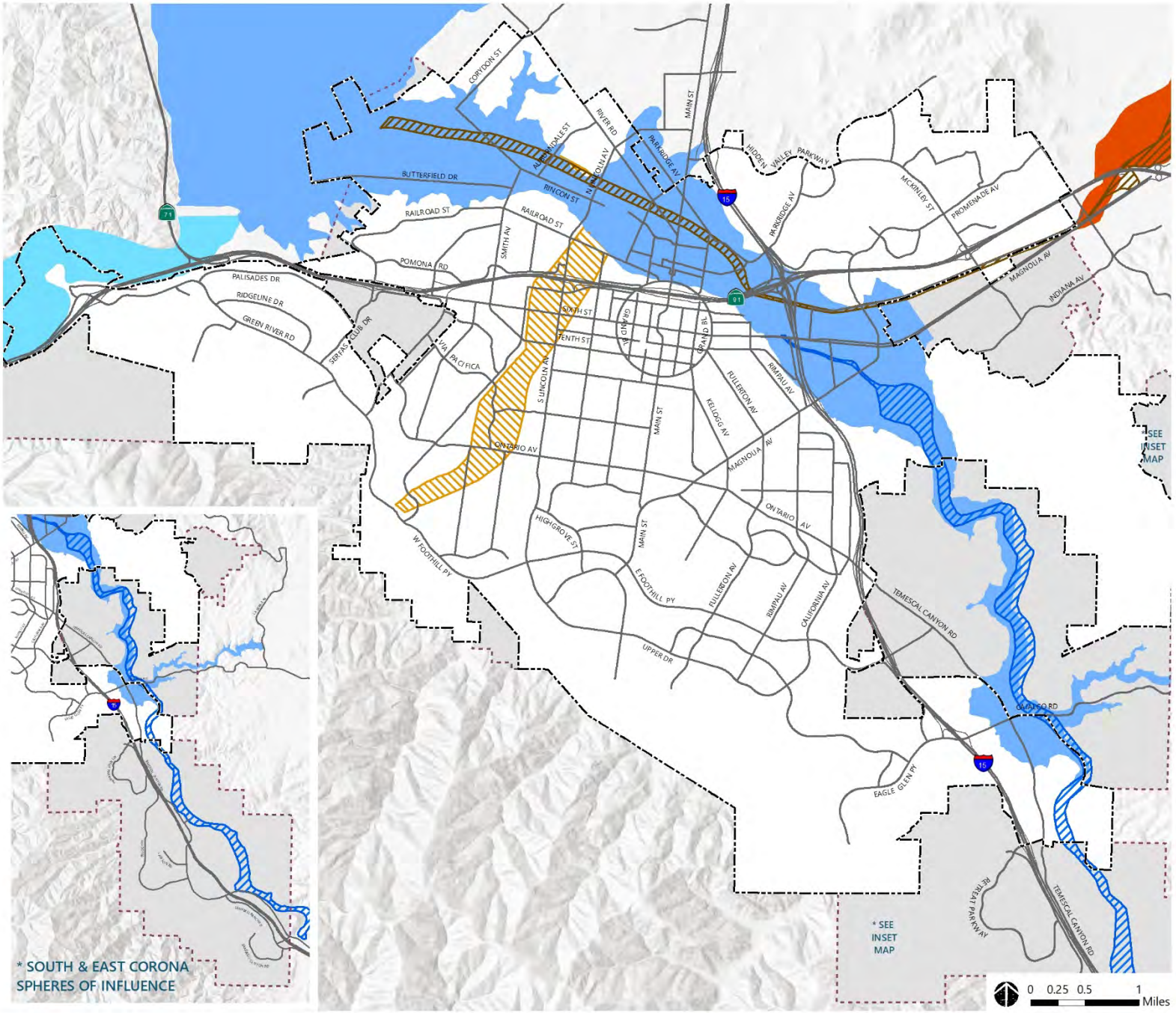


Figure 5-7 Dam Inundation Hazards

Source:
Department of Water Resources, 2015

CORONA General Plan

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5.4 HAZARDOUS MATERIAL

This section addresses the hazards related to the generation, storage, transport, and disposal of hazardous materials and wastes in Corona and the potential for harm to people, business, and the community.

5.4.1 Regulatory Framework

Corona's regulatory framework for hazards and hazardous materials includes federal and state law and requirements of the general plan and municipal code. These primary regulations are described as follows.

Federal Laws and Regulations

The federal government has enacted a wide variety of laws and regulations governing the generation, use, transport, and disposal of hazardous materials. Major federal laws include the following statutes (and regulations promulgated thereunder):

- **Resources Conservation and Recovery Act** (RCRA) and Hazardous and Solid Waste Amendments Act—hazardous waste management.
- **Comprehensive Environmental Response, Compensation, and Liability Act & Superfund Amendments & Reauthorization Act**—cleanup of contamination.
- **Clean Water Act and National Pollutant Discharge and Elimination System**—drinking and surface water quality.
- **Emergency Planning and Community Right-to-Know** (EPCRA)—business inventories and emergency response planning.
- **Natural Gas Pipeline Safety Act and Hazardous Liquid Pipeline Safety Act**—underground pipeline safety.
- **Hazardous Materials Transportation Act** (HMTA)—transportation of hazardous materials by ground, air, sea, or other mode of transportation.
- **Toxic Substances Control Act**—creates mandatory requirements for the EPA to evaluate existing chemicals, use new risk-based safety standards, etc.

The specific requirements for how these statutes should be implemented are codified in Title 40, Protection of the Environment, of the Code of Federal Regulations (CFR). Title 40 covers both hazardous and nonhazardous waste. Additional regulations that apply to workplace safety and the transportation of hazardous materials are in CFR Title 29 and Title 49, respectively.

Because of the specialized nature of hazardous materials, a variety of federal agencies has the responsibility for implementing federal legislation. Among others, key federal agencies include the Environmental Protection Agency (EPA); the Department of Labor, Occupational Health and Safety Administration (OSHA); the Department of Transportation, Pipeline Hazard Management (DOT, PHMSA); the Federal Energy Regulatory Commission (FERC); and other federal agencies.

California Laws and Regulations

The state of California also has enacted a wide variety of laws and regulations governing the generation, use, transport, and disposal of hazardous materials. Major state laws include the following statutes (and regulations promulgated thereunder):

» **Hazardous Substance Account Act.** California's counterpart to the Superfund legislation, the Act authorizes the state to clean up sites that do not qualify for cleanup under CERCLA.

» **Carpenter-Presley-Tanner Hazardous Substances Act.** California's counterpart to CERCLA provides a comprehensive scheme to ensure the timely and cost-effective cleanup of hazardous substance release sites.

» **Elder California Pipeline Safety Act.** California's counterpart to the federal National Gas Pipeline Safety Act and authorizes the Office of the State Fire Marshal to exercise jurisdiction over safety regulations for intrastate pipelines.

» **Hazardous Waste Transportation Act.** California's counterpart to the federal HWTA requires transporters to adhere to a complex set of regulations to ensure safe transport of hazardous waste.

» **California Hazardous Waste Control Act.** Establishes standards for regulating the generation, handling, processing, storage, transport, and disposal of hazardous wastes from "cradle to grave."

Hazardous Materials Release Notification

CERCLA, EPCRA, and California law require responsible parties to report hazardous material releases if certain criteria are met. In California, any significant release or threatened release of a hazardous material requires immediate reporting by the responsible person to the California Office of Emergency Services (Cal OES) State Warning Center and the Unified Program Agency.

These statutes include, but are not limited to:

» California Health and Safety Codes §§ 25270.8 and 25507
» Vehicle Code § 23112.5
» Public Utilities Code § 7673, (PUC General Orders #22-B, 161)
» Government Code §§ 51018, 8670.25.5 (a)
» Water Codes §§ 13271, 13272,
» California Labor Code § 6409.1 (b)10

Requirements for immediate notification of all significant spills or threatened releases cover owners, operators, persons in charge, and employers. Notification is required regarding significant releases from facilities, vehicles, vessels, pipelines, and railroads. In addition, all releases that result in injuries or harmful exposure to workers must be immediately reported to the California Occupational Safety and Health Administration pursuant to the California Labor Code § 6409.1(b).

Corona 2004 General Plan

The 2004 Corona General Plan, Public Health and Safety Element, addresses the issue of hazardous materials. This element presents goals and policies pertaining to the safe transport, handling, storage, and disposal of hazardous materials in Corona and the planning area. Policies are designed to provide a high degree of public safety, to minimize damage to property, and prevent economic and social dislocation that could result as a result of a hazardous material spill or leak. Hazardous material policies also protect surface and groundwater quality, land resources, air quality, and environmentally significant areas from potential contamination.

The 2004 Corona General Plan has one primary goal that addresses hazardous materials. Specifically, Goal 11.3 is to ensure that the health, safety, and general welfare of residents and visitors of the City of Corona, including the overall health of the natural environment, is provided through good land use planning and strict adherence and enforcement of the City of Corona Hazardous Material Area Plan, California Fire Code, Certified Unified Program Agency, and other pertinent sources and documents. This goal is supported by six policies and a variety of implementation plans to regulate the production, processing, transport, and disposal of hazardous materials.

As stated in the City's Hazard Mitigation Plan, Corona practices land use management techniques and planning principles to ensure strict adherence to and enforcement of the City of Corona Hazardous Materials Area Plan, California Fire Code, and Certified Unified Program.

California Unified Program (Hazardous Materials)

The California Environmental Protection Agency (CalEPA) was created to protect human health and the environment and to ensure the coordinated deployment of state resources. CalEPA's unified program for managing hazardous materials and waste includes six programs:

- Underground Storage Tank Program
- Aboveground Petroleum Storage Act Requirements
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment Programs
- Hazardous Materials Release Response Plans and Inventories (Business Plan)
- California Accidental Release Prevention
- Hazardous Material Management Plans

Certified Unified Program Agencies (CUPA) are designated by the state of California to implement this program for individual cities. CalEPA has designated the Riverside County Department of Environmental Health (Riverside DEH) as the CUPA, responsible for managing the above programs in the county. The Corona Fire Department is a Participating Agency under the CUPA. Of the six programs mentioned above, Corona FIRE administers Hazardous Materials Release Response Plans and Inventories (Business Plan) and Hazardous Material Management Plans in the City.

5.4.2 Existing Conditions

A hazardous material is defined as any material that, due to its quantity, concentration, and/ or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released. Hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and any material that a business or the local implementing agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

State of California guidelines define hazardous materials to include injurious substances, including pesticides, herbicides, toxic metals and chemicals, liquefied natural gas, explosives, volatile chemicals, and nuclear fuels.

Hazardous Materials

The City of Corona, like many communities, has a wide variety of businesses that produce, store, treat, or dispose of hazardous wastes. Federal and state governments regulate these types of businesses to protect public health and welfare, personal property, and the environment. Some of these businesses and the hazardous materials produced/stored/disposed are described below.

Toxic Air Pollutants

US facilities in certain industry sectors that manufacture, process, or otherwise use toxic chemicals in amounts above established levels must report how each chemical is managed through recycling, energy recovery, treatment, and permitted releases to the environment. A chemical "release" means it is emitted into the air or water or placed in some type of land disposal. According to the Toxic Release Inventory maintained by the EPA, approximately 41 facilities in Corona are required to report the level and disposition of toxic air pollutants they release.

Hazardous Waste Generators

Corona has more than 300 licensed commercial and industrial businesses and uses that generate some form of hazardous materials or waste. The EPA regulates generators of hazardous waste based on the amount of waste generated: 1) large quantity generator (producing 1,000+ kilograms per month, or more than one kilogram per month of acutely hazardous waste) or 2) small quantity generator (generating between 100 and 1,000 kilograms of hazardous waste per month).

Hazardous Waste Transporters

Hazardous waste transporters are businesses that are licensed to transport hazardous waste from one site to another, often to a processor or disposal site. In Corona, the method of transport could be highway or rail. This includes transporting hazardous waste from a generator's site to a facility that can recycle, treat, store, or dispose of the waste. Corona has approximately 23 businesses that are licensed to operate as hazardous waste transporters. According to the California Department of Toxic Substances Control, seven transporters are currently active and based in Corona.

Solid and Liquid Waste

Solid and liquid waste facilities include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, closed disposal sites, and used oil collection sites. Although Corona does not have hazardous waste disposal sites, it does have several solid waste facilities, including 1 landfill (El Sobrante), 3 inert engineered fill facilities, 2 closed landfills (Spanish Hills, Corona Disposal), and 3 active transfer/processing sites. It also has 13 used oil collection sites and 16 waste tire sites.

Underground Storage Tanks

Underground storage tanks (UST) are used by many commercial and industrial uses to store a wide range of hazardous substances. USTs include the tanks and pipes connected to them. Since the early 1980s, USTs have been recognized as a significant cause of groundwater contamination from gasoline compounds and solvents. According to the State Water Resources Control Board, the City of Corona has 72 permitted storage tanks; 20 of these are open cases involving investigation/cleanup. There are no known abandoned USTs in Corona.

Medical Waste

Medical facilities generate a variety of hazardous waste. Large hospitals are the primary sources of medical wastes, but there are numerous other sources. Corona has many clinics, professional offices, dentists, blood and plasma centers, and other facilities that produce medical waste. Hazardous materials stemming from these facilities include contaminated medical equipment or supplies, infectious biological matter, prescription medicines, and radioactive materials.

Table 5-3, Corona Facilities That Generate or Transport Hazardous Materials, provides a summary of the facilities in Corona that are licensed to handle hazardous materials. The Corona General Plan EIR will contain a list of sites with current cleanup activities.

Table 5-3 Facilities Generating/Transporting Hazardous Materials

Description of facilities in Corona	No. of Facilities
• Facilities that report toxic air pollutants (CARB)	53
• Facilities that produce and release toxic air pollutants	41
• Hazardous material generators, large quantity	37
• Hazardous material generators, small quantity	270
• Hazardous material transporters	23
• Solid and liquid waste facilities	51
• Underground storage tanks	72
• Medical waste generators	N/A

Source: Varied state of California databases, 2017
N/A: Information not available

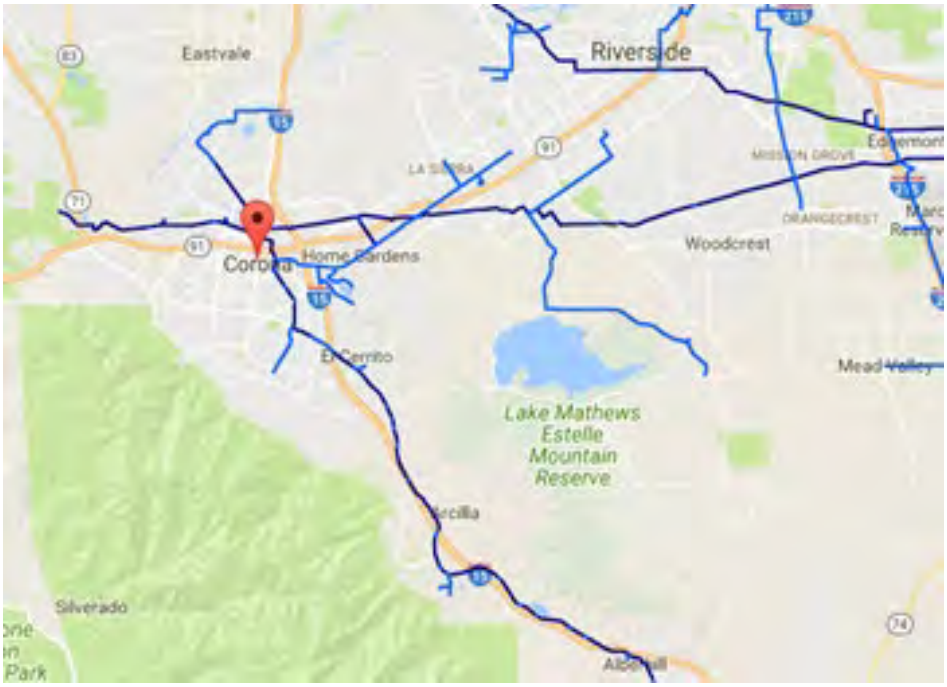
Hazardous Materials and Transportation

Certain transportation infrastructure poses unique hazards to the community due to hazardous materials. In Corona, hazardous infrastructure includes: 1) natural gas transmission lines and 2) highway and railroad transportation.

Natural Gas Transmission

SoCal Gas (Southern California Gas Company) owns and operates two high-pressure transmission lines—represented by the dark blue lines in the figure below—that bisect Corona, The east-west transmission line begins west of SR-71 and extends eastward on the north side of SR-91 to the intersection of Promenade and McKinley, where it divides into two segments that extend to SR-91. The north-south line runs south along River Road to Main Street, jogs around the east side of the Circle, and continues south along Fullerton to Ontario Avenue, where it joins with Temescal Canyon Road. Rupture of these lines during a natural disaster or by an accidental breach could have serious consequences, such as an explosion.

These transmission lines are in "high consequence areas," which are heavily populated areas, less populated areas that have buildings accommodating low-mobility residents, or areas where people gather for a specific number of days per year. In high consequence areas, SoCal Gas must develop and implement comprehensive integrity-management programs, codified in 49 CFR Part 192, Subpart O for gas transmission pipelines, and Part 192, Subpart P for gas distribution pipelines. No major incidents have been reported along these natural gas transmission lines.



SoCal Gas high pressure transmission (dark blue) and distribution (light blue) lines.

Hazardous Waste Transport

Rail and highway transportation routes, and the many industries that use them, could potentially release a hazardous material into the environment. The impacts would depend on the size and location of the release, the type of material, and the quantity released. Releases of explosive and highly flammable materials have the potential to cause fatalities and injuries, necessitate large-scale evacuations, and destroy property. Toxic gas releases could cause injury and fatalities among emergency response personnel and passers-by. Serious health and environmental effects could result from the release of toxic materials into either surface or groundwater supplies.

In Corona, as in most urban areas, hazardous materials and wastes are frequently transported on the existing interstate freeway network. Typically, hazardous wastes fall into two broad categories: nonradioactive, hazardous cargo (NRHM), which includes nine classes of hazardous material (excluding radioactive); and Highway Route Controlled Quantity of Radioactive Materials (or HRCQ/RAM). The NRHM route designation is divided into restricted routes (certain materials cannot be transported) or designated or preferred routes for certain shipments. The SR-91 and I-15 are the preferred routes for NHRM, and I-15 and I-10 are preferred routes for HRCQ/RAM.[1]

Hazardous waste transport is a prominent safety concern, given the potential for release of materials during an accident, emergency, or other event. A record search of accidents involving the release of hazardous materials since 1990 showed that 17 incidents (6 of which were serious) involved releases of hazardous materials on highways bisecting Corona.[2] None resulted in a fatality.

These hazardous material incidents do not include incidents involving the transport of hazardous materials on City streets. According to Cal OES's hazardous material incident databases, Cal OES received 300 calls from 2006 through 2016,[3] nearly one-quarter (73) of which involved chemical releases on roadways. Of those 73 incidents, 44 involved releases of petroleum, 12 involved releases of sewage, and 10 involved release of chemicals/vapors. It should be noted that these statistics do not reflect the many incidents never reported to Cal OES that are handled locally in Corona.

The Corona Police and Fire departments are responsible for responding to calls regarding accidents involving hazardous waste materials on public roads and private properties. The Riverside County HAZMAT team may also be called to support or lead operations to clean up spills involving hazardous materials. Interagency agreements are also in effect with surrounding jurisdictions (e.g., CAL-FIRE). Response plans are in place should a hazardous material spill occur along the interstate highway system.

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[1] Accessed at: https://www.google.com/maps/d/viewer?hl=en_US&app=mp&mid=1Yyz6yA9I9I5DQ5Gb2U1X7f_8enM&ll=33.89270671008348%2C-117.44244509921873&z=11

[2] USDOT, Pipeline and Hazardous Materials Safety Administration, Hazmat Incident Database, accessed at: https://www.phmsa.dot.gov/hazmat/library/data-stats/incidents

[3] Cal OES, HAZMAT Spill Notifications Database, accessed at: http://www.caloes.ca.gov/cal-oes-divisions/fire-rescue/hazardous-materials/spill-release-reporting

5.5 AIRPORT HAZARDS

This section provides an overview of the Corona Municipal Airport and the various hazards and land use compatibility issues associated with general aviation operations, proposed development, wildlife interface, and noise hazards.

5.5.1 Regulatory Framework

The regulatory framework for airports generally consists of federal laws, state law, general plan law, and municipal codes or other implementation tools. Pertinent laws and regulations for public-use airports are summarized.

State Aeronautics Act

The State Aeronautics Act (Public Utilities Code §§ 21001 et seq.) is implemented by Caltrans's Division of Aeronautics. Key purposes of the act include to: 1) foster and promote safety in aeronautics; 2) ensure that state laws and regulations relating to aeronautics are consistent with federal aeronautics laws and regulations; and 3) ensure that persons residing within the vicinity of airports are protected against intrusions by unreasonable levels of aircraft noise. The Division of Aeronautics issues permits for and annually inspects hospital heliports and public-use airports, makes recommendations regarding proposed school sites within two miles of an airport runway, and authorizes helicopter landing sites at/near schools.

The State Aeronautics Act also establishes statewide requirements for airport land use compatibility plans (ALUCP). These plans are intended to provide for the orderly growth of a public airport and the area surrounding the airport while safeguarding the general welfare of inhabitants near the airport and the public in general. Caltrans's California Airport Land Use Planning Handbook provides guidelines for preparing ALUCPs that establish policies applicable to a range of issues, including the influence areas of airports, aircraft noise standards and criteria, accident potential zones, and building height zones near airports. The Riverside Airport Land Use Commission (ALUC) is responsible for implementing this legislation.

California General Plan Law

Government Code § 65302(a) requires that a city's general or specific plan be consistent with an ALUCP. A general plan does not need to be identical with the ALUCP to be consistent, but it must accomplish two things: 1) specifically address compatibility planning issues, either directly or through reference to a zoning ordinance or other policy document; and 2) avoid direct conflicts with compatibility planning criteria. ALUCP compatibility in the general plan can be achieved in several way:

- Incorporate policies into existing general plan elements.
- Adopt a separate general plan airport element to address all airport issues.
- Adopt a compatibility plan as a stand-alone document.
- Adopt an airport combining district or overlay zoning ordinance.

Riverside County General Plan

Riverside County has adopted the Riverside County ALUCP as part of its general plan. Policies in the land use, noise, and safety elements address potential impacts related to: 1) exposure to aircraft noise; 2) land use safety for people on the ground and the occupants of aircraft; 3) protection of airport airspace; and 4) general concerns related to aircraft overflights. The Temescal Canyon Area Plan (TCAP) has established a Corona Municipal Airport Influence Area and six Compatibility Zones within the Airport Influence Area where properties are subject to regulations governing development intensity, density, height of structures, and noise. These land use restrictions that would apply to the Corona Municipal Airport are summarized in Table 4, "ALUC Criteria for Riverside County," in the Riverside County General Plan. TCAP Policy 7.1 also directs the County to comply with the ALUCP and any applicable policies.

Corona 2004 General Plan

In late 2001, the City of Corona received LAFCO permission to annex the Corona Municipal Airport into its incorporated boundaries. The existing 2004 Corona General Plan does not contain goals or policies that address land use compatibility with the airport. However, it contains some guidance regarding noise impacts of the airport. Two relevant policies are:

- **Policy 11.4.8**. Restrict development of land uses located within the 65 dBA CNEL contour of the Airport to industrial, agricultural, or other open space activities, and require that all development in the vicinity of the Corona Municipal Airport comply with the noise standards in the Corona Municipal Airport Master Plan.
- **Policy 11.4.9**. Work closely with the Corona Municipal Airport to ensure that the airport's operations do not generate adverse noise conditions in the City of Corona.

The Corona General Plan does not contain other policies to address airport-related hazards/safety concerns, transportation impacts, air quality, or other issues affecting the community. Also, the municipal code does not address airport compatibility issues, although certain operational issues are addressed. The General Plan update will include land use compatibility and safety policies for the Corona Municipal Airport or address the issue through a future overlay or zoning code mechanism.

Airport Master Plan

Corona Municipal Airport operations are governed in accordance with a master plan. In accordance with Public Utilities Code § 21675, an airport master plan contains land use plan that provides for the orderly growth of an airport and the area surrounding the airport and will safeguard the general welfare of the inhabitants within the vicinity of the airport and the public in general. Operations at Corona Municipal Airport are governed by its Airport Master Plan, adopted by the City in 1978 and amended in 1990. Although current operations total 50,000 takeoffs/landings, the airport could accommodate 100,000 annual operations; however, it is unlikely given the airport's primary use as recreational, its location in a flood plain, and surrounding land uses.

5.5.2 Existing Conditions

This section reviews airport hazards due to accidents, wildlife in the area, flooding, and other potential hazards associated with the Corona Municipal Airport.

Introduction

Corona Municipal Airport is in northwest Corona on a 100-acre site. The airport is bordered to the north by the Prado Dam, undeveloped Chino Hills to the west, industrial uses on the south, and residential uses directly to the east. The site is leased as part of a master recreational lease between the City and the US Army Corps of Engineers, who owns the land. The airport is designed to serve general aviation aircraft used primarily for recreational use. The airport is home to 350 to 400 general aviation aircrafts and several helicopters; it has approximately 50,000 annual operations with a forecast maximum of 100,000 operations annually. The airport also serves as a staging ground for natural disasters, most recently the Canyon Fire.

The last master plan for Corona Municipal Airport was completed in 1978 and has not been updated since 1990. Originally, the airport was proposed for expansion to 225 acres. However, Corona Airport is in a federally protected wetlands, and the Prado Basin is a breeding site for least Bell's vireo, which is on the federal endangered species list. In addition, the airport lies within the Prado Flood Control Basin and the 100-year flood zone. The airport has been flooded at least every decade since the 1960s. Because of its potential for flooding and the sensitive species living in the vicinity, no fundamental changes to the runway/taxiway system are permitted.



Corona Municipal Airport

Airport Noise Hazards

California Code of Regulations Title 21, Subchapter 6, Airport Noise Standards, establishes 65 dBA CNEL as the acceptable level of aircraft noise for persons living in the vicinity of airports. Noise-sensitive land uses in locations where the aircraft exterior noise level exceeds 65 dBA CNEL are generally incompatible, unless an aviation easement for aircraft noise has been acquired by the airport proprietor, or the residence is a high-rise apartment or condominium that has an interior CNEL of 45 dBA or less in all habitable rooms. Corona Municipal Code 17.84 prohibits sensitive land uses, site-built homes and institutional uses in airport noise contours above 65 dBA CNEL. All subdivisions within two miles of the airport or within the 65 dBA CNEL contour are required to show and record an avigation easement for the benefit of the airport.

The noise contours for the airport extend largely within open space areas within the Prado Basin and surrounding industrial uses. Aircraft noise in the City is typically characterized as occasional, and the majority of flights served by the Corona Municipal Airport are for recreational purposes. Existing noise contours for the Corona Municipal Airport are shown in Figure 5-8. As shown below, the airport is not a substantial source of noise and does not affect most of the City since it is half a mile from the nearest residential neighborhoods. Noise exposure areas of 55 dBA CNEL and above are largely within open space and industrial use areas surrounding the airport.

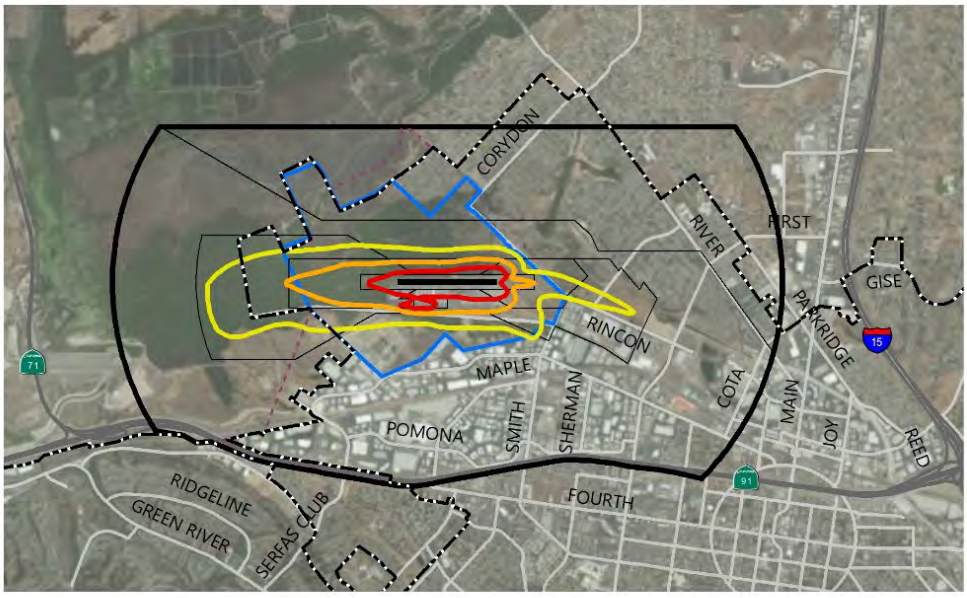


Figure 5-8 Corona Municipal Airport Noise Contours

Airport Crash Hazards

Minimizing the number and severity of accidents is always a goal for municipal airports. Unlike larger airports, municipal airports often lack control towers to direct air traffic, and they often have less modernized runways and less safety equipment than more heavily used and funded airports. According to the National Transportation Safety Board, 100 incidents have occurred at Corona Airport dating back to 1982, although incidents have steadily declined in number and severity over the past few decades. Typically, the most serious accidents occur within a small defined area of the airport.

Table 5-4 summarizes incidents at the airport. Accidents peaked in the 1980s and have consistently declined since then. The 2010–2019 decade shows the fewest incidents and accidents since records were available from the 1980s.

Table 5-4 Accidents at Corona Municipal Airport

Decade	No. of Incidents	Description
1982–89	38	This decade represented a high mark, with 38 accidents (more than 5.4 per year), resulting in 28 fatalities and 15 serious injuries.
1990–99	29	This decade saw 29 accidents (slightly above 3.2 per year), resulting in 14 fatalities, and 2 serious injuries.
2000–09	25	This decade saw a further decline, with 25 accidents (2.7 per year), resulting in 19 fatalities and no serious injuries.
2010–19	17	This decade saw the lowest number of accidents, with 17 through 2019 (1.7 annually), resulting in 5 fatalities and 5 serious injuries.

Source: U.S. National Transportation Safety Bureau, 1982–2018;
City of Corona, 2019 data

During the 2000s, Corona Municipal Airport experienced a series of high-profile airplane crashes. Several midair crashes caused significant loss of life in the air and on the ground. In 2008, the Corona City Council established a "Mayor's Task Force on Aviation Safety." Although the airport was deemed safe, the task force called for better signage, more safety seminars, FAA-reviewed flight paths, and other safety-related improvements. The FAA provided funds for some technology upgrades, but funding for the construction of an air traffic control tower could not be secured.

Both State and federal law require the designations of areas surrounding all airports where regulations are in place to protect structures and people from potential crash hazards. The area surrounding the Airport where land uses are regulated to minimize air crash hazards is north of SR-91, extending east to Cota Street and west to the Prado Dam. The area where building heights are regulated to prevent obstructions to air navigation is similar in east-west extent to the above area; but extends to the intersection of Paseo Grande/Via del Rio in the southwest quadrant of Corona.

Airport Hazard Zones

The Corona Municipal Airport has four principal airport/land use compatibility concerns: 1) exposure to airport noise; 2) land use safety for people on the ground and occupants of the aircraft; 3) protection of airport airspace; and 4) general concerns related to aircraft overflight. To maintain safe aircraft operations, ALUC has delineated six hazard zones as defined below and shown in Figure 5-9.

- **Zone A**, Runway Protection Zone. An area ("clear zone") off the end of a runway to enhance the protection of people and property on the ground.
- **Zone B1**, Inner Approach/Departure Zone. Where aircraft are typically 200 to 400 feet above runway elevation for straight-in arrivals or straight-out departures.
- **Zone B2**, Adjacent to Runway. This area fills out gaps in Zone B1 and enhances protection for approach/departures that veer off the runway.
- **Zone C**, Extended Approach/Departure Zone. This refers to an area where planes are flying around 800 feet to 1,000 feet from the ground.
- **Zone D**, Primary Traffic Patterns and Runway Buffer Zone. This refers generally to an area that includes most of regular air traffic patterns and pattern entry routes.
- **Zone E**, Other Airport Environs. This covers areas that are largely designated as open space and are under control of the Army Corp of Engineers.

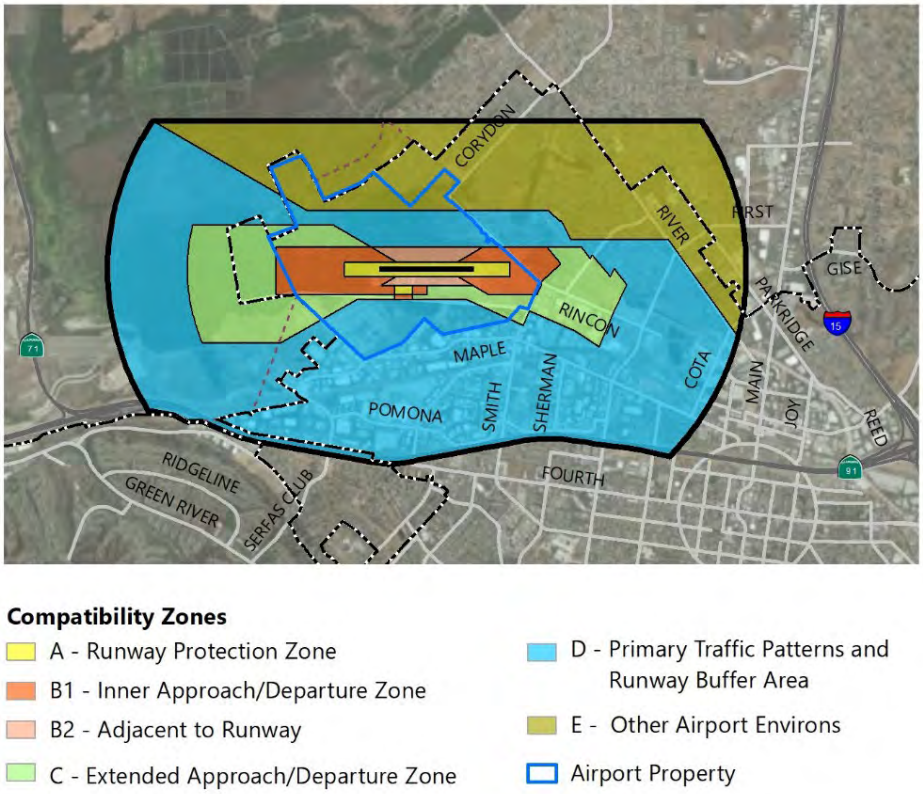


Figure 5-9 Airport Land Use Hazard Zones

Airport Existing Land Use Compatibility

Table 5-5 compares the City's existing general plan land use map with Riverside County ALUC policies with respect to hazards and land use. Figure 5-10 illustrates the location of existing land uses within and surrounding the Corona Municipal Airport.

Table 5-5 RCALUC Policies and Current General Plan Consistency

RCALUC Policies			Consistency of ALUC Policies with Current General Plan
Residential Land Use	Compatibility Zone D	No inconsistencies noted	No inconsistencies.
Non-Residential Land Use	Compatibility Zone C	Potential Conflict: Zone C intensity limits (75 people/acre) apply to area that is designated for Light Industrial/ Warehousing southeast of airport [C1]	44.8-acres partially within the Airport Compatibility Zone C (ACZ-C) have industrial land use with job generating uses and estimated total of 668 employees. The highest existing employment density, 21 employees/acre, is substantially below the maximum density outlined in ALUC policies. The eastern portion of Butterfield Park (e.g., ballfields, maintenance shed, picnic tables, and parcel play area) falls within the ACZ-C. These land uses would not have a density of 75/people or more. Therefore, there are no inconsistencies.
	Compatibility Zone D	Potential Conflict: Zone D intensity limits (100 people/acre) apply to parcels designated Light Industrial/ Warehousing south/ southeast of airport [C2]	Given that employment densities in Zone C are substantially below the max intensity limit, it is unlikely that the employment density in Zone D exceeds the intensity limit of 100 employees/ acre. Therefore, there are no inconsistencies.
Other Policies	General Plan	City standard of 65 dB CNEL for new residential uses conflicts with ALUC criterion of 60 dB CNEL; however, no lands in the 60 dB CNEL contour are designated for housing	As no land within the 60 dB CNEL contour is designated residential, there would be no conflicts with the established ALUC criterion. Therefore, there are no inconsistencies.
	Zoning Code	No airport-related height limit zoning established.	As there are no airport-related height limits established, height limit in the CMC would not conflict with this criterion. Therefore, there are no inconsistencies.

Source: Riverside County 2004.

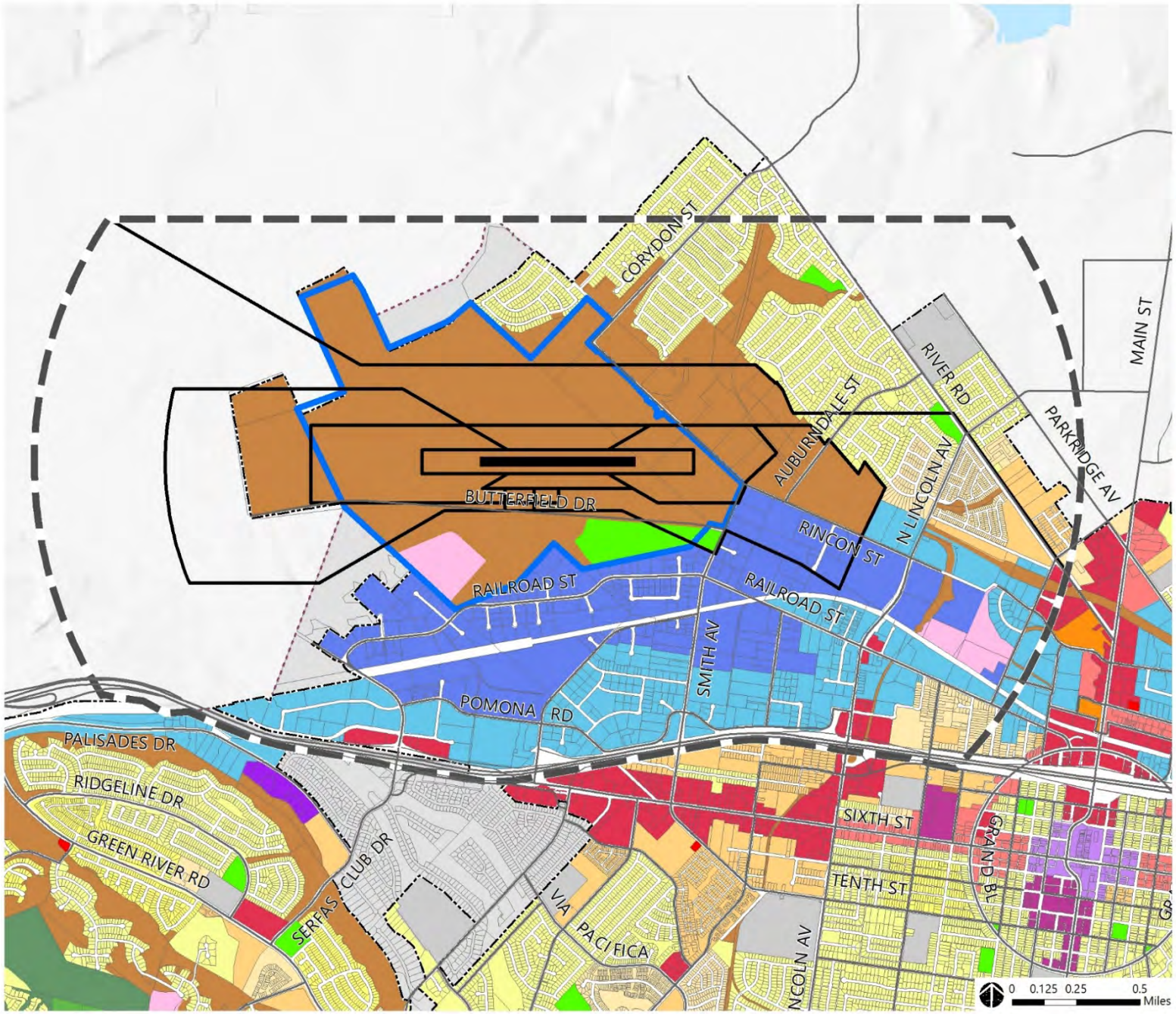


Figure 5-10 Corona Municipal Airport Land Use Compatibility

Legend

- AirportCompatibilityZones
- Corona Municipal Airport
- Runway
- Agriculture
- Estate Residential
- Rural Residential
- Low Density Residential
- Low Medium Density Residential
- Medium Density Residential
- High Density Residential
- Urban Density Residential
- General Commercial
- Office Professional
- Mixed Use Downtown
- Mixed Use: Commercial/Residential
- Mixed Use: Industrial/Commercial
- Light Industrial
- General Industrial
- Open Space General
- Parks & Open Space Recreational
- School
- Fire Station
- Utility
- City Boundary
- Sphere of Influence Areas

Source:
City of Corona, 2019; Riverside County Land Use Compatibility Plan Policy Document October 2004

CORONA General Plan

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5.6 FIRE HAZARDS

This section covers Corona fire hazards, including the regulatory framework, urban and wildland fire hazards, postfire debris flow hazards, and various operational considerations to reduce the risk from fire hazards.

5.5.3 Regulatory Framework

The City of Corona follows a detailed regulatory framework in protecting people, property, infrastructure, and the environment in the City and its sphere from wildfire. The following briefly summarizes the more prominent laws, regulations, and guidelines that underpin the operations and priorities adopted by the Corona Fire Department.

State Regulatory Framework

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (Cal FIRE) is a state of Caifornia agency dedicated to fire protection and stewardship of more than 31 million acres of California's wildlands. The Board of Forestry and Fire Protection (BOFF) is a regulatory body within Cal FIRE. The BOFF is responsible for developing the general forest policy of the state, determining the guidance policies of the Department, and representing the state's interest in federal forestland. The BOFF also promulgates regulations and reviews general plan safety elements adopted by local governments for compliance with statutes. Together, BOFF and Cal FIRE protect and enhance the forest resources of California's wildlands that are not under federal jurisdiction.

California Office of State Fire Marshal

The Office of the State Fire Marshal (OSFM) supports Cal FIRE's mission by focusing on fire prevention. OSFM fire safety responsibilities include: regulating buildings in which people live, congregate, or are confined; by controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death and destruction by fire; by providing statewide direction for fire prevention within wildland areas; by regulating hazardous liquid pipelines; by developing and reviewing regulations and building standards; and by providing training and education in fire protection methods and responsibilities. These achievements are accomplished through engineering, education, enforcement, and support from the State Board of Fire Services.

California Government Code

The State of California maintains responsibility for the prevention and suppression of wildfires on land outside incorporated boundaries of a city. In 1991, the State Legislature adopted the Bates Bill (Government Code §§ 51175–51189) following the fires in the Oakland Hills. The bill requires Cal FIRE to identify and classify areas in local responsibility areas (LRA) that have a "very high fire hazard severity" for wildfires. LRAs are areas where local governments have the primary responsibility for preventing and suppressing fires. A local agency is required to adopt CAL FIRE's findings within 120 days of receiving recommendations from Cal FIRE, pursuant to Government Code § 51178(b), or propose modifications in accordance with state law.

Fire Terms

Fuel Modification: Thinning or removal of combustible vegetation to protect structures susceptible to wildfire. May also involve installing irrigation onsite or replacing vegetation with fire-resistant plants.

Very High Fire Hazard Severity Zone: A designated area in which the type and condition of vegetation, topography, fire history, and other factors demonstrate an increased possibility of wildland fire.

Wildland/Urban Interface: The areas where structures meet or intermingle with undeveloped wildland or vegetative fuels and are at elevated risk from wildfires spreading to structures, homes, and other personal property.

Wildfire Risk Area: Land that is covered with vegetation or is located where a fire would be abnormally difficult to suppress or would result in great or unusual damage.

California Fire Code

The California Fire Code is a series of building, property, and lifeline codes in the California Code of Regulations, Title 24, Chapter 9. The California Fire Code contains fire-safety-related building standards, such as construction standards, vehicular and emergency access, fire hydrants and fire flow, sprinkler requirements, etc. Specific chapters relevant to wildfire include Chapter 49, Requirements for Wildland-Urban Interface, and Chapter 7A of the California Building Code, Materials and Construction Methods for Exterior Wildfire Exposure. The City adopts the Fire Code and numerous appendices every three years as part of the statewide update. Amendments are also made to the code including requirements for property addressing and signage, Class A roofing, automatic fire alarm and sprinkler system installation, fire hydrants, eave protection, and fire flow and access.

National Fire Protection Association Standards

National Fire Protection Association (NFPA) codes, standards, recommended practices, and guides are developed through a consensus standards development process approved by the American National Standards Institute. NFPA standards are recommended (advisory) guidelines in fire protection but are not laws or "codes" unless adopted or referenced as such by the California Fire Code or local fire agency. The City strives to meet NFPA standards where feasible and funding is available.

Specific standards applicable to wildland fire hazards include:

- NFPA 1141, Fire Protection Infrastructure for Land Development in Wildlands
- NFPA 1142, Water Supplies for Suburban and Rural Fire Fighting
- NFPA 1143, Wildland Fire Management
- NFPA 1144, Reducing Structure Ignition Hazards from Wildland Fire
- NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations

Fire Safe Regulations

The Board of Forestry and Fire Protection is authorized in the Public Resources Code (§§ 4290 and 4291) to adopt minimum fire safety standards for new construction in VHFHSZs in SRAs. The Board published its fire safety regulations in the California Code of Regulations, Title 14. These standards may differ from those in the California Fire Code. Fire safe regulations currently address:

- Article 1: Administration of ordinance and defensible space measures
- Article 2: Emergency access and egress standards (roadways)
- Article 3: Standards for signs identifying streets, roads, and buildings
- Article 4: Emergency water standards for fire use
- Article 5: Fuel modification standards

Local ordinances adopted by local governments cannot be less restrictive than the provisions in state law. These regulations would be applied in SRAs outside of the City's boundaries, such as the SOI and surrounding unincorporated lands.

Local Regulatory Framework

CAL FIRE, County of Riverside Unit Strategic Plan

Cal FIRE prepares a "California Fire Strategic Plan" to govern operations statewide. The Plan is implemented through "unit plans" for different regions of the state. CAL FIRE operations are organized into 21 geographic units; the Riverside Unit Fire Plan covers Riverside County, including Corona. The unit plan sets forth the agency's priorities for the prevention, protection, and suppression of wildfires. It is completed annually to address how it is achieving the goals and objectives of the California Strategic Fire Plan. The Fire Plan's overall goal is to reduce total costs and losses from wildland fire by protecting assets at risk through focused pre-fire management prescriptions.

Corona Standards of Coverage Study and Fire Strategic Plan

The Corona Fire Department sets the vision, mission, business operations and guiding principles for the department by means of a strategic plan. The purpose of the strategic plan is so that the members of the organization can envision its future and develop the necessary procedures and operations to achieve that future. The strategic plan is a foundational plan that assists the department in preparing annual fiscal year budgets, master plans and other related activities required to be performed by the department. The planning period is eight years, but is updated annually to assess service levels, performance and other needed functions that may change during the course of a year.

Community Wildfire Protection Plan (CWPP)

A CWPP is a program to reduce wildfire risk to communities, municipal water supplies, structures, including nonconforming developments and infrastructure, and other at-risk land uses through a collaborative process of planning and implementing programs. Due to the recent increase in wildfire hazards, the City is undertaking a "Wildland Risk Assessment" to address wildland-urban interface areas in the City's canyons and foothills that are at risk from wildfire. Corona has been awarded a grant from the California Fire Safe Council to complete a CWPP in 2020. This will complement the Southwest CWPP in operation in areas south of Corona's sphere of influence.

Fire Prevention Guidelines and Standards

The Corona Fire Department prepares, adopts, and maintains fire prevention standards that apply to existing and proposed buildings, landscapes, and property. Many of these standards are the same requirements of the California Fire Code, with certain local standards being more restrictive than the state codes by adoption of local amendments to the CMC. Fire prevention standards include, but are not limited to, the following[4]:

- General notes on plans and construction standards
- Address and premise identification
- Guideline for Fire Flow and Hydrant Spacing
- Automatic fire sprinkler plan review and inspection
- Hazardous material use and storage
- Fuel modification requirements

[4] Corona Fire Prevention Guidelines can be accessed online at: https://www.coronaca.gov/government/departments-divisions/fire-department/fire-prevention-and-planning

Corona Local Hazard Mitigation Plan

The City of Corona Local Hazard Mitigation Plan (Corona LHMP) is an Annex to the Riverside County Operational Multi-Jurisdictional Hazard Mitigation Plan County (County MHMP). The Corona LHMP identifies the city's hazards, reviews and assesses past disaster occurrences, estimates the probability of future occurrences, and sets goals to reduce or eliminate long-term risks to people and property from hazards. Of the 23 hazards evaluated, wildfire hazard is the second highest risk in the city and programs address the reduction of this hazard. Pursuant to Resolution No. 2018-094, the City Council authorized submittal and acceptance of the Corona LHMP Annex. In 2020, the City Council will adopt the Corona General Plan, and the included Safety Element will adopt by reference the Corona LHMP in compliance with AB 2140.

Corona Emergency Operations Plan

The City's Emergency Operations Plan (EOP) addresses the City's planned response to natural disasters, technological incidents, and national security emergencies. The plan does not address normal day-to-day emergencies, or well-established and routine procedures used in coping with such emergencies. Instead, the EOP's operational concepts focus on potential largescale disasters that can generate unique situations requiring unusual emergency responses. The Plan 's emergency management goals are threefold: 1) provide effective life safety measures an reduce property losses; 2) provide for the rapid resumption of impacted businesses and community services; and 3) provide accurate documentation and records required for cost recovery efforts.



Canyon 1 Fire in Corona, September 2017

California General Plan Law, OPR General Plan Guidelines

Government Code § 65302 to require that safety elements be revised periodically to address wildfire risks in accordance with regulations and guidance promulgated by the Board of Forestry and Fire Protection. Additionally, cities must submit a revised safety element to the Board for consideration and comments no later than 90 days prior to its adoption. Local governments must also respond to how they plan to address the Board's comments or make findings to the contrary prior to adoption of the safety element. To meet the intent of state law, SB 1241 requires the safety element to:

- Identify wildfire hazards with very high fire hazard severity zone maps from the Board of Forestry and Fire Protection, US Geological Survey, and other sources.
- Consider fire planning guidance given by the Office of Planning and Research's (OPR) Fire Hazard Planning document.[5]
- Demonstrate that the City or contract agency and associated codes satisfactorily address adequate water supply, egress requirements, vegetation management, street signage, land use policies, and other criteria to protect from wildfires.
- Establish in the safety element (and other elements that must be consistent with it) a set of comprehensive goals, policies, and feasible implementation measures for protection of the community from unreasonable risks of wildfire.

Corona 2004 General Plan

The 2004 Corona General Plan has four goals that relate to fire hazards; the other two relate primarily to police protection services. Specific goals in the General Plan Police and Fire Element are:

- **Goal 9.1**. Ensure that there is an adequate service level of law enforcement provided for all residents, visitors, and businesses throughout the City of Corona.
- **Goal 9.2**. Ensure that there is an adequate service level of fire protection provided for all residents, visitors, and businesses.
- **Goal 9.3**. Ensure public safety services are provided in a manner that reflects and is sensitive to the characteristics and needs of resident population, visitors, and business community.
- **Goal 9.4**. Require that all existing and new development/redevelopment address provision of police and fire protection in an active and preventative manner.
- **Goal 9.5**. Create land use and development configuration and site design standards to minimize crime.
- **Goal 9.6** Address fire prevention measures on open space land to reduce the risk of wildland fires.

[5] California Governor's Office of Planning and Research, Fire Hazard Planning: General Plan Technical Advice Series, May 2015. Accessed at: http://www.opr.ca.gov/docs/Final_6.26.15.pdf

5.5.4 Existing Conditions

Corona has a complex fire environment. It is one of the largest cities in Riverside County and at the intersection of three counties. It has a housing stock of approximately 50,000 housing units, mostly two- to four-story structures. The City also has senior facilities and other group living quarters. Corona is also surrounded by extensive open space areas that are susceptible to wildfire and encroachment into the community. The following describe the urban and wildfire context affecting fire services.

Urban Fire Environment

Corona Fire Department responds to an average of 12,500 calls annually. Table 5-6 lists the call volume by type that Corona FIRE responds to each year. However, the number of service calls has increased by 15% over the prior five years. Emergency medical calls represent nearly three of every four (75%) of all calls each year. This one category of service calls is also primarily responsible for the 15 percent increase in calls citywide.

Table 5-6 Corona Fire Department Volume

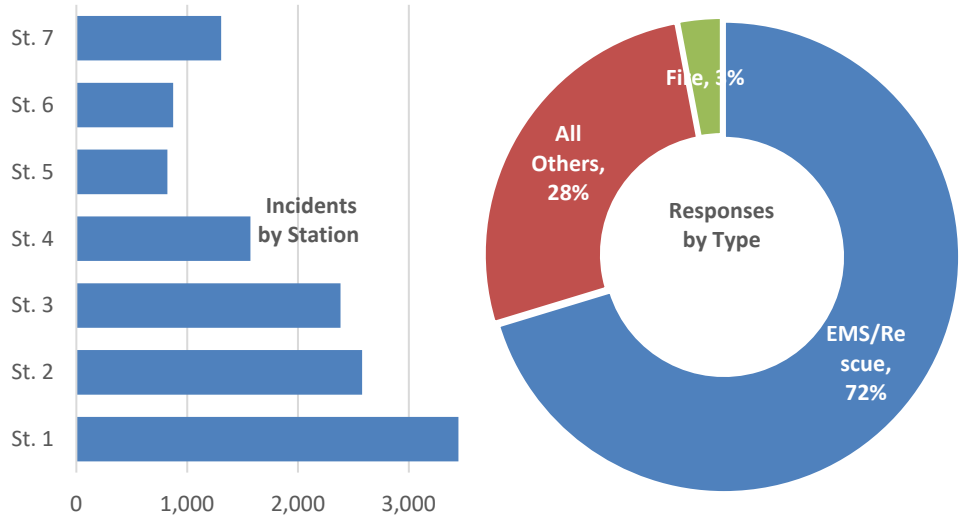
	Call Volume by Year				
Types of Calls	**2014**	**2015**	**2016**	**2017**	**2018**
EMS/Rescue	8,317	8,936	9,379	9,479	9,452
Good Intent Call	1,334	1,320	1,410	1,587	1,643
Service Call	804	787	881	869	880
Fire Service	351	385	391	429	400
Explosion	17	13	3	4	2
False Alarm	353	427	409	420	453
Hazardous Condition	171	175	183	191	212
All Others	18	6	2	1	6
Total	11,358	12,044	12,660	12,981	13,048

Source: City of Corona, NFIRS, 2014–2018.
Notes: Calls received by CAL FIRE, USFS, and Riverside County are not included.
However, calls in the SOI areas served by the City are included in each year respectively.

Generally, the type and distribution of service calls that Corona Fire responds to are typical for cities across California. The one outlier is calls for EMS/Rescue, which comprise 74 percent of calls versus about 64 percent statewide. In addition, Corona Fire receives a high percentage of calls from group-living units, including assisted living and nursing homes. Corona Fire also serves the communities of El Cerrito, Coronita, and Home Gardens through a service agreement with the County of Riverside. Of the total calls in 2018, Corona Fire responded to 972 calls annually in the SOI areas. Riverside County/Cal FIRE also responds to additional calls within the broader Temescal Valley.

Fire Station Activity

Figures 5-11 and 5-12 detail the fire station call volume, type of responses, and location. As shown below, Stations 1, 2, and 3 makeup the majority of calls and are located within the more urbanized portions of the city and provide the closest responding unit. Nearly three of every four calls received are for emergency medical service (EMS). Calls are most heavily concentrated in the more urbanized portions and along the SR-91.



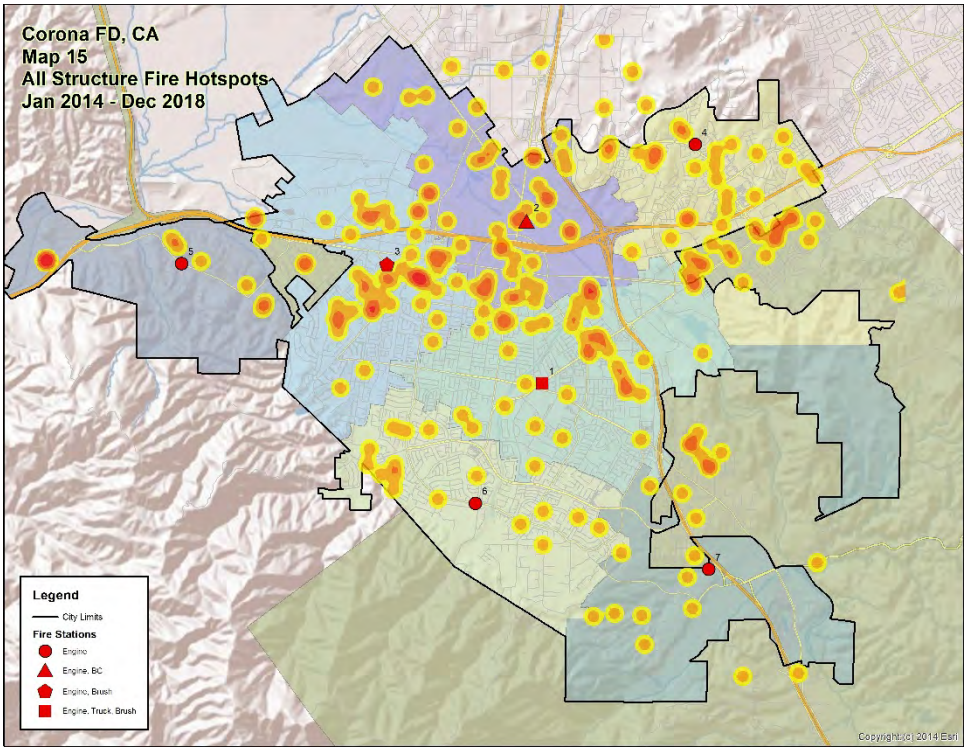
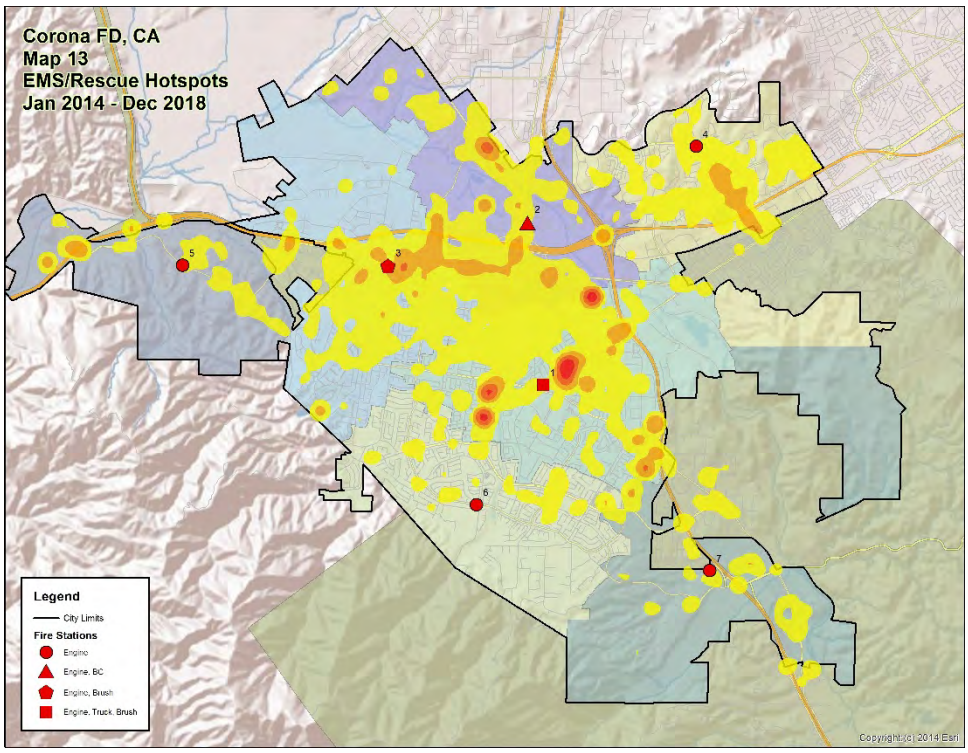


Figure 5-11 Corona Fire: Call Volume, Type, and Location



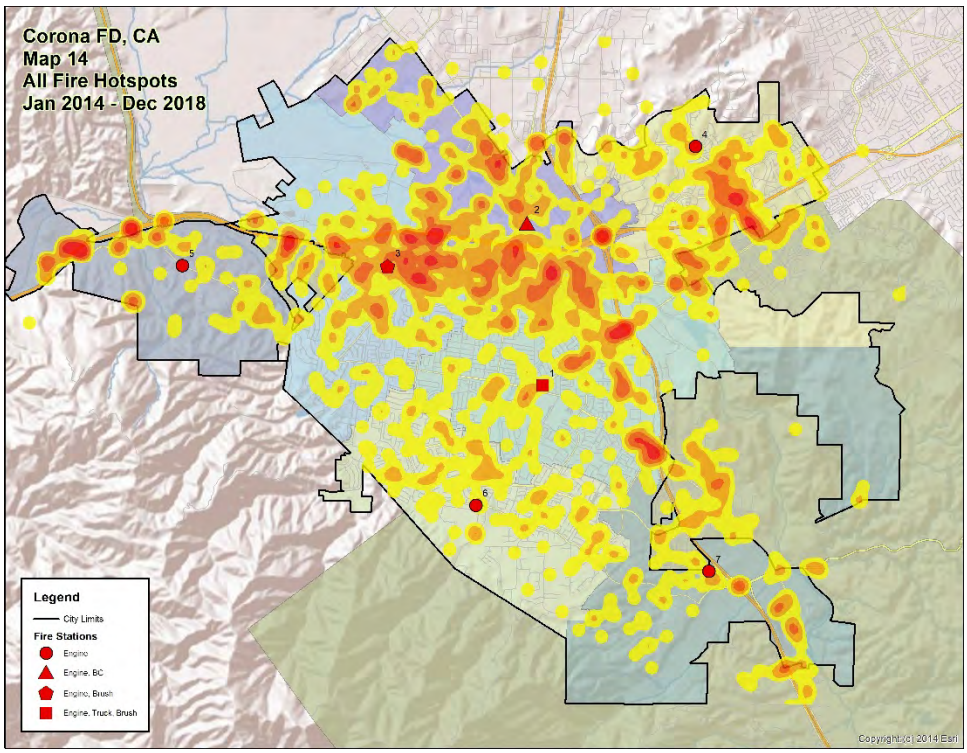


Figure 5-12 Location of Corona Fire Department Calls

Wildland Fire Environment

Corona's history is punctuated by a long history of wildfires threatening the community. These include fires at the wildland-urban interface (WUI), where the urban environment extends into open areas, resulting in a complex mix of fuels, properties, and threats. WUI fires can damage critical infrastructure, such as electrical transmission towers, railroads, water reservoirs and tanks, and communications facilities. Since 1900, many wildfires have encroached into Corona, although relatively few have caused significant or widespread damage to structures and infrastructure.

Table 5-7 lists the major fires since the 1950s that have affected Corona and the properties adjacent to the city.

Table 5-7 Recent Wildfires Affecting Corona and Surrounding Area

Year	Fire Incident	Description
2017	Canyon Fires	Burned 2,600 acres in Corona and destroyed 25 structures
2015	Highway Fire	Burned 1,049 acres in the Prado Basin
2010	McKinley Fire	Burned 913 acres in the Eagle Valley area
2008	Freeway Complex	Burned 30,500 acres, damaged or destroyed 314 homes
2007	Santiago Fire	Burned 27,000 acres and destroyed 12 homes
2006	Sierra Fire	Burned 10,500 acres but did not damage structures
2005	Lincoln Fire	Burned 231 acres in Eagle Valley
2004	Cerrito Fire	Burned 16,500 acres and destroyed 28 structures
1999	Chase Fire	Burned 500 acres in south Corona and destroyed 1 home
1990	Bedford Fire	Burned 4,500 acres and destroyed 20 structures
1987	Silverado Canyon	Burned 7,700 acres-no homes were destroyed or lives lost
1982	Gypsum Fire	Burned 18,000 acres and destroyed 14 homes
1981	Dawson Canyon	Burned 8,000 acres and destroyed two homes
1980	Indian Fire	Burned 29,000 acres and destroyed 7 homes
1980	Owl Fire	Burned 18,330 acres. No structures destroyed or lives lost
1979	Paseo Fire	Burned 2,000 acres in west Corona
1977	Tin Mine	Burned 5,500 acres and destroyed 1,600 fruit trees
1967	Paseo Fire	Burned 51,000 acres, destroyed 66 homes, killed 1 person
1948	Green River Fire	Burned 53,000 acres and destroyed 22 homes.

Source: Incident Information Database, CAL FIRE, 2018.

Figure 5-13 shows the wildfires that have encroached into Corona since 1900. The Sierra del Oro specific plan area and the westernmost portion of Corona's SOI have experienced the most major wildfires—more than seven times since 1900 (or once every 20 years). These statistics typically do not include smaller brush fires.

Postfire Debris Flows Due to Wildfires

Wildfires on hillsides can create hazards in the form of debris or mud flows. A debris flow is a form of slope failure and slippage, where a moving mass of loose mud, sand, soil, rock, vegetation, and water travels down a slope under the influence of gravity. Debris/mud flows occur most frequently on hillsides that have little to no vegetation and are most common following wildfires and as a result of storm events; they have a history of occurrence in southern California, some with devastating consequences.



As part of its landslide hazard program, the USGS prepares postfire debris flow maps of major wildfires that document the likelihood of debris flows during a storm event. Maps show estimates of the likelihood of debris flow, their potential volume, and the combined relative debris flow hazard. These predictions are made at the scale of the drainage basin and for individual stream segment. Estimates are based upon a design storm with a peak 15-minute rainfall intensity of 24 millimeters per hour.

In 2017, the City of Corona and Anaheim experienced two large fires, the Canyon I (Corona) and Canyon II fires (Anaheim Hills). The USGS prepared debris flow hazard maps for both events, showing a moderate basin hazard. The potential volume of the flow in Corona can range from 1,000 to 100,000+ cubic meters. During the winter storms that followed the fire season, Corona and Anaheim both experienced mud and debris flows within neighborhoods near the fire areas and along the SR-91.

Additional information on the location of debris and mudflow hazards and mitigation measures can be found on the USGS Landslide Hazard Program website.[6]

[6] USGS Emergency Assessment of Post-Fire Debris – Flow Hazards. Accessed at: https://landslides.usgs.gov/hazards/postfire_debrisflow/

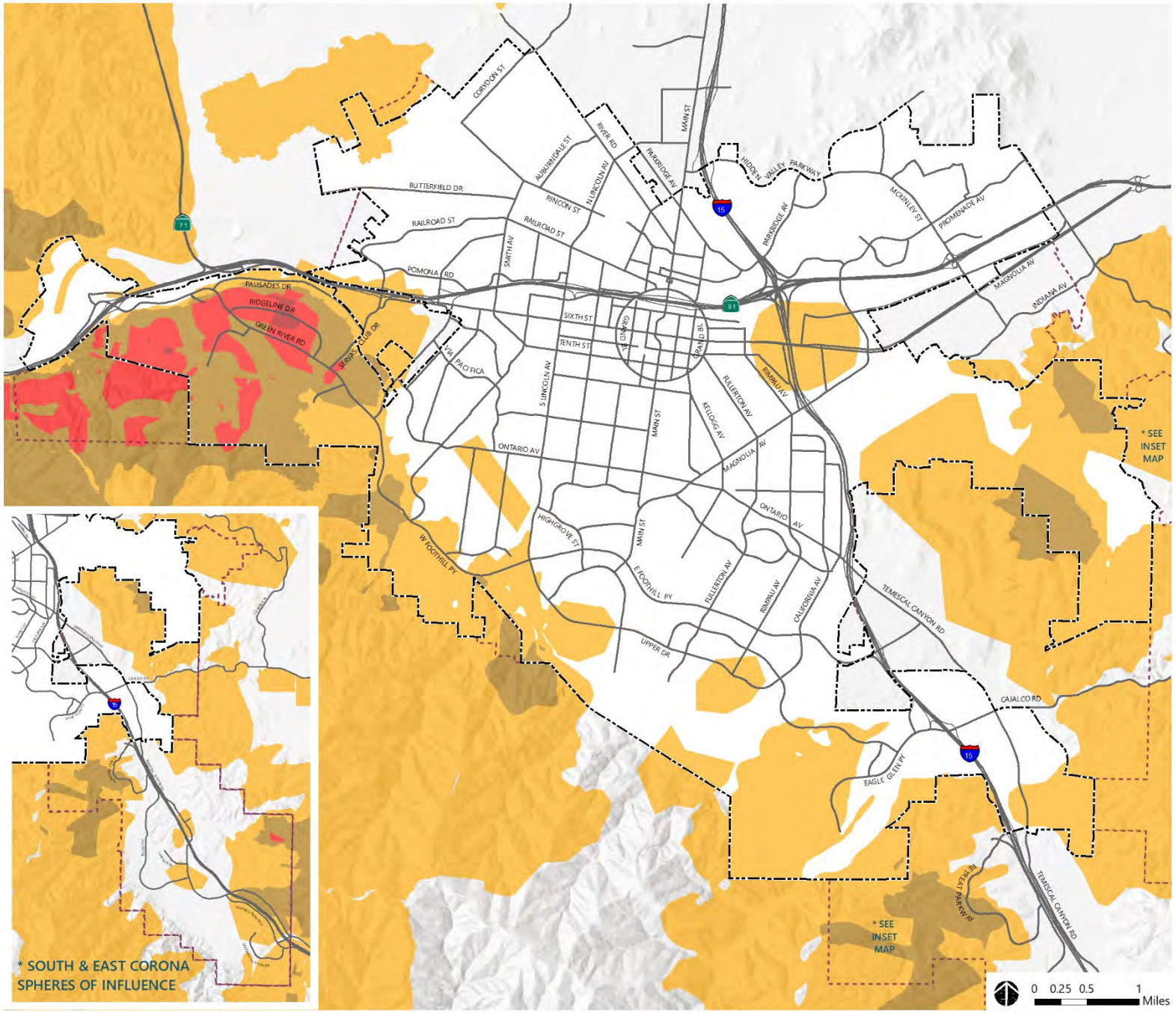


Figure 5-13
Wildfire History

Legend

Number of Wildfires

- 1 - 2
- 3 - 4
- 5 - 6
- 7 - 8
- City Boundary
- Sphere of Influence Areas

Note:
Perimeters of wildfires burned near or within Corona since 1900. Does not include controlled burns

Source:
Fire Perimeters Version 16_1, CalFire, 2017

CORONA General Plan

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Wildfire Hazard Severity Zones

The City of Corona has a complex wildfire environment. Corona is surrounded by extensive open space areas that are susceptible to wildfire and encroachment into the community. The Cleveland National Forest borders the western portion of the City and is the source of many wildfires. Vegetation to the north, in the Chino and Corona Hills, and to the east, in Gavilan Hills, is susceptible to wildfire. As illustrated earlier, a majority of the undeveloped area surrounding Corona has been burned by multiple wildfires.

California law requires CAL FIRE to identify areas based on the severity of fire hazards. In accordance with the Public Resources Code §§ 4201–4204 and Government Code §§ 51175–51189, CAL FIRE has mapped three fire hazard severity zones based on fuels, terrain, weather, and other factors. Government Code § 51179 allows a local agency to restrict or expand, at its discretion, the fire hazard severity zones identified by CAL FIRE.[7] The City has adopted its current VHFHSZ map pursuant to Ordinance No. 3034, adopted on June 3, 2010, which is consistent with CAL FIRE's determination.

Approximately 9,300 homes and 3.0 million square feet of office, commercial, and industrial buildings are within Corona's VHFHSZ. In addition, essential public facilities and services are also located in the VHFHSZs. These include two freeways (I-15 and SR-91), electrical transmission lines, and some public utilities. The primary assets at risk are seven water reservoirs and three radio communication towers situated within the VHFHSZ. Table 5-8 lists the major assets situated within the City's VHFHSZs.

Table 5-8 Assets at Risk in Very High Fire Hazard Severity Zones

Location	Acreage	Assets at Risk in Very High Fire Hazard Severity Zones
City	5,586	Housing: 5,081 units Commercial, Office, Industrial: 49 parcels with 1.5 msf Infrastructure: 39 parcels containing utilities
SOI	10,683	Housing: 4,229 units Commercial, Office, Industrial: 88 parcels with 1.5 msf Infrastructure: 69 parcels containing utilities
Total	16,268	Housing: 9,310 units Commercial, Office, Industrial: 137 parcels with 3.0 msf Infrastructure: 108 parcels

Source: Existing Land Use Database for Corona, PlaceWorks, 2018
Note: Roadways in the VHFHSZ can be found in the Circulation Element of the General Plan.

[7] A City may: 1) exclude an area identified as a VHFHSZ from the requirements of §51182 following a finding supported by substantial evidence in the record that the § 51182 requirements are not necessary for effective fire protection in the area or 2) designate areas as a VHFHSZ in its jurisdiction that were not identified by CAL FIRE following a finding supported by substantial evidence that § 51182 requirements are needed for effective fire protection. The City has adopted its wildfire hazard severity zones consistent with those recommended by Cal FIRE. The State of California is proposing to update standards in 2020.

According to the LHMP, the Very High Fire Hazard Severity Zone Map is used for:

- Implementing WUI building standards for new construction;
- Natural hazard real estate disclosure at the time of sale;
- One-hundred-foot defensible space clearance requirements around buildings;
- Property development standards such as road widths, water supply and signage;
- Reference for the Corona General Plans.

To protect development in the VHFHSZ, the City requires adherence to a wide range of state and local codes (California Fire Code, CAL-FIRE fire safe design requirements, City Fire and Public Works Standards, and other standards). For essential facilities that are situated in Corona's VHFHSZ, these facilities have been hardened by undergrounding utilities, maintaining brush clearance around such facilities, or employing other appropriate measures that protect such facilities from damage.

In some rural areas, however, there remains small, isolated pockets of nonconforming residential development. Several areas near the foothills have limited access to them (e.g., single egress or unpaved roads). In other cases, developments that were built years ago may no longer be maintaining fuel breaks or adhering to safe building practices. To address these issues, the City has received a grant to establish a Fire Safe Council that will cover the City's VHFHSZ. Through the Fire Safe Council, the City will seek the preparation of a CWPP that addresses these nonconforming issues.

Multiple government agencies (local, county, state, and federal) are responsible for fire suppression. Responsibility areas have been setup to ensure response is coordinated and adequately financed. These responsibility areas are generally described below.

- **Local Responsibility Area (LRAs)**. These are areas where local jurisdictions (e.g., cities, districts, counties, and CAL FIRE if under contract) are responsible for the prevention and suppression of wildfires. The City covers the entire incorporated area, and the County/CAL FIRE serves portions of the sphere. The City provides secondary backup for areas covered by Riverside County Fire.
- **State Responsibility Area (SRAs).** These are the areas where the State of California has primary fiscal responsibility for fire prevention and suppression activities. SRA lands do not include lands within city boundaries or in federal ownership. CAL FIRE is the responsible state agency assigned to response and suppression of wildfires in Corona's SOI and surrounding areas.
- **Federal Responsibility Area (FRAs).** These are areas where the federal government has primary fiscal responsibility for fire prevention and suppression activities. Around Corona, the federal government (US Forest Service) is responsible for suppressing fires in the Cleveland National Forest. Typically, USFS resources are deployed solely to FRAs, but may assist elsewhere.

Figure 5-14 illustrates the location of moderate, high, and very high fire hazard severity zones and the corresponding responsibility area.

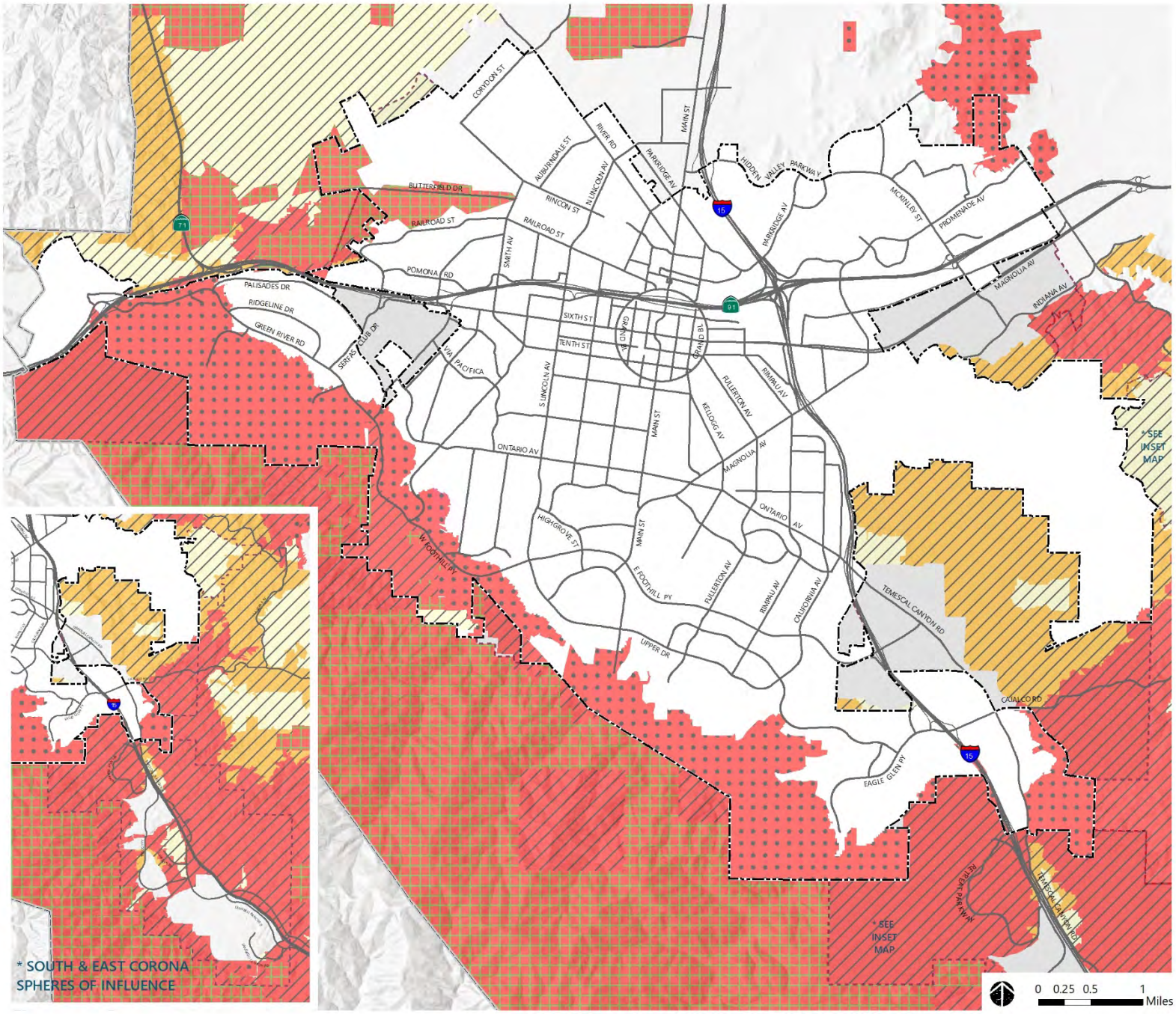


Figure 5-14 Wildfire Hazard Zones & Responsibility Areas

Legend

Fire Hazard Zone

- Moderate
- High
- Very High

Resposibility Areas

- Local Responsibility Area
- State Responsibility Area
- Federal Responsibility Area
- City Boundary
- Sphere of Influence Areas

Note:
Zones based on factors such as fuel (material that can burn), slope and fire weather.

Local Responsibility Area (LRA):
Local agencies have the primary financial responsibility for the prevention and suppression of wildland fires.

State Responsibility Area (SRA):
The State of California has the primary financial responsibility for the prevention and suppression of wildland fires.

Federal Responsibility Area:
Federal Government hasthe primary financial responsibility for the prevention and suppression of wildland fires.

Source:
CalFire, 2017
http://www.fire.ca.gov/fire_prevention/fhsz_maps_riversidewest
Downloaded: 9/26/17

CORONA General Plan

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Corona Fire Department Services

Corona Fire Department is "all risk" department, responding to fires, medical emergencies and hazardous conditions. This department also participates in mutual, automatic and contractual aid. Corona Fire's key functions are:

- **Fire Prevention**. The division is responsible for reviewing development site plan and site construction, occupancy inspections, weed abatement, investigating complaints and suspicious fires, and hazardous materials coordination. The Division conducts youth firesetter intervention and fire safety education. In addition, staff assigned to fire stations conduct inspections on occupancy uses.
- **Fire Operations**. The department responds to fires, medical emergencies, and hazardous conditions and provides advanced and basic life support. Specialized teams include search and rescue, hazardous materials response, technical rescue and tactical emergency medical support. The training division coordinates and provides continuous education and advanced training to operations personnel.
- **Emergency Medical Services**. The division coordinates emergency medical response, and EMS public education. The Division is responsible for continuous program quality improvement, skills and license maintenance of the department's EMT and paramedic personnel. It also coordinates with local hospital emergency departments, health care providers and the Riverside County EMS Agency.
- **Emergency Management**. This function is charged with creating the framework within which communities reduce vulnerability to hazards and cope with disasters. It is responsible for coordinating emergency planning, preparedness, risk reduction, response, and recovery. Emergency communications, facilities and apparatus are all handled by other departments within the City.



Fire Station Locations, Equipment, and Deployment

Corona deploys its resources from seven fire stations, each assigned a defined fire response zone in the city. The Riverside County Fire Department operates five stations that primarily serve the City's SOI. However, Corona FIRE does not have service agreements with Riverside County to serve the unincorporated areas of Coronita, El Cerrito, and areas of Temescal Valley in the City's SOI. CAL FIRE stations 64 and 47 and two US Forest Service fire stations serve the state and federal responsibility areas.

Table 5-9 lists the fire protection resources available at each fire station serving Corona and Figure 5-15 shows the fire response zones in relationship to fire station location.

Table 5-9 Fire Station Overview

Station/Address	Equipment	Staffing
City of Corona Fire Stations		
Fire Station 1 540 Magnolia	Paramedic Engine Company; Truck Company; Urban Search/Rescue Vehicle; Brush Engine;	8
Fire Station 2 225 E. Harrison	Paramedic Engine Company; OES Wildland Engine (State); Reserve Engine; Battalion Chief	5
Fire Station 3 790 S. Smith	Paramedic Engine Company; Squad Company; Brush Engine; OES Structure Engine; Reserve Engine	4
Fire Station 4 915 N. McKinley	Paramedic Engine Company; HazMat Vehicle and Trailer; OES Comm. Unit (State)	4
Fire Station 5 1200 Canyon Crest	Paramedic Engine Company	4
Fire Station 6 110 W. Upper	Paramedic Engine Company; and Water Tender; Reserve Engine	4
Fire Station 7 3777 Bedford	Paramedic Engine Company; Reserve Truck Company; Reserve Engine; Mobile Command	4
Riverside County Battalion #4		
St. 13: 3777 Neece	Type 1 Municipal Engine	3
St. 14: 1511 Hamner*	Cal Fire Type 3 Brush Engine	3
St. 47: 3902 Hillcrest Ave	Type 1 Municipal Engine	3
St. 57: 3367 Corydon	Type 1 Municipal Engine	3
St. 82: 17452 Lake Pointe	Type 1 Municipal Engine	3
St. 64: 26425 Horsethief	Type 1 Municipal Engine	3
State/Federal Responsibility Area		
USFS: 1148 East 6th St USFS: 24530 Temescal		
*Open during fire season only		

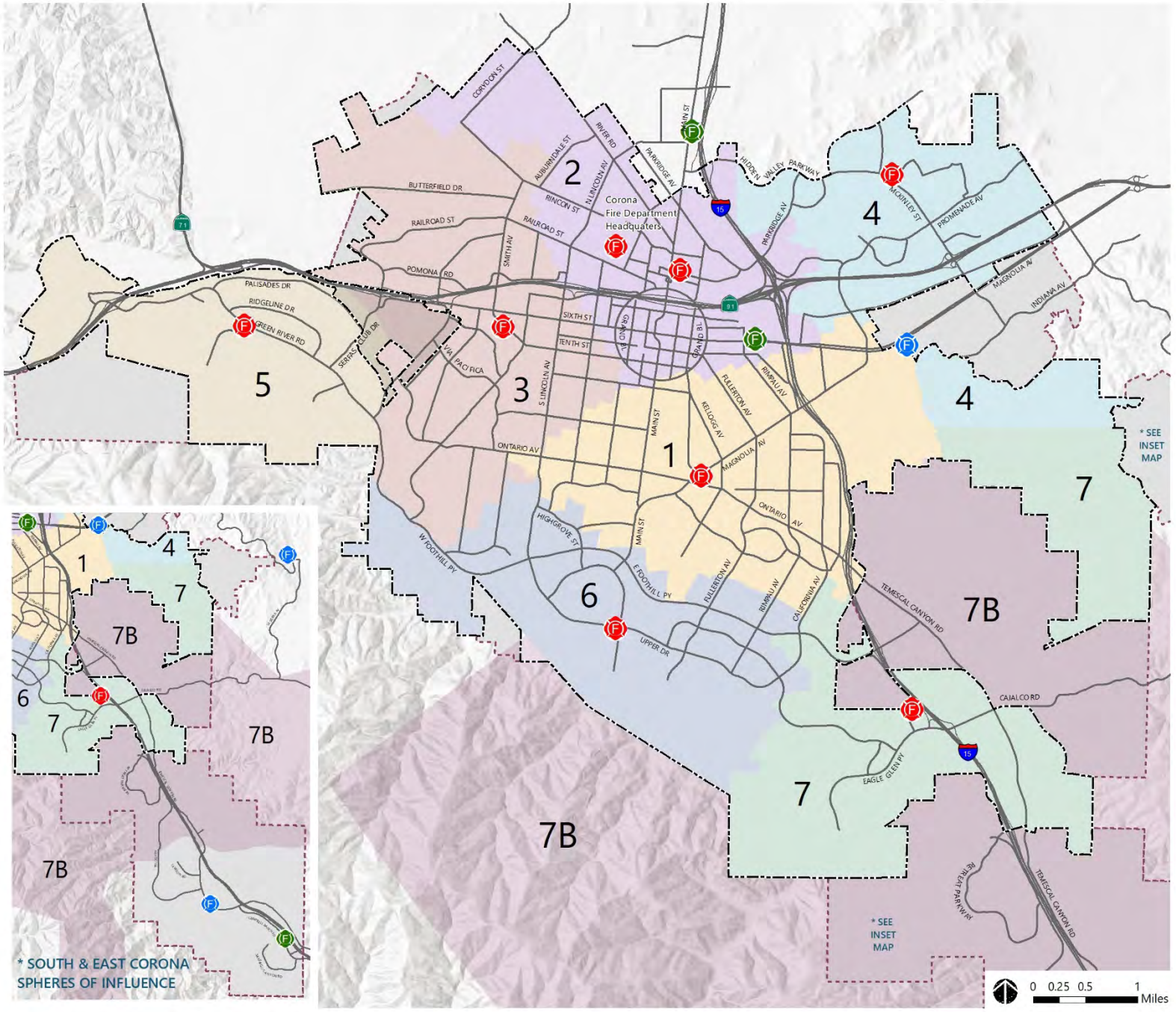


Figure 5-15 Fire Station Response Zones

Legend

Fire Station

- City of Corona
- Riverside County (Sphere)
- Other Agency (State & Federal)

Response Zones | Stations

- Fire Station # 1 — 540 Magnolia Ave
- Fire Station # 2 — 222 E Harrison St
- Fire Station # 3 — 790 S Smith Ave
- Fire Station # 4 — 915 N Mckinley St
- Fire Station # 5 — 1200 Canyon Crest Dr
- Fire Station # 6 — 110 W Upper St
- Fire Station # 7 — 3777 Bedford Canyon Rd
- Zone # 7B

City Boundary

Sphere of Influence Areas

Notes:
Corona Fire provides secondary back-up to areas outside its response zones.

Source:
City of Corona Fire Department, 2019

CORONA General Plan

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Fire Pre-Planning

Corona has wildland/urban interface areas that present challenges for fire protection and suppression. In order to adequately pre-plan for responding to issues in those areas, Corona FIRE has developed Structure Protection Plans (SPP). Each SPP contains an analysis of fire behavior associated with its terrain and fuel, evacuation routes, fire infrastructure, staging areas and tactical response, communications, and resources needed to address wildfires in the area. SPP's are available for the following areas:

List of Structure Protection Plans

- Corona Hills
- River-Corydon
- Butterfield Railroad
- Prado-Green River
- Fresno – Mindiman
- Mabey – Mangular
- Hagador Tin Mine
- Main Street – Mountain Gate
- Eagle Joseph-Crown Ranch
- Bedford Canyon – Eagle Glen
- Mc-Bride/Weirick

Wildland-interface areas in Corona have unique fire protection and suppression needs. These are the result of a limited number of nonconforming structures, natural terrain and fuel modification needs, road access limitations, and other fire protection issues. Corona FIRE has obtained grants to begin a process leading to the preparation of a CWPP that will continue to improve safety in the wildland-interface areas.

Figure 5-16 shows the location of the City's Structure Protection Plan areas where the CWPP is intended to address.

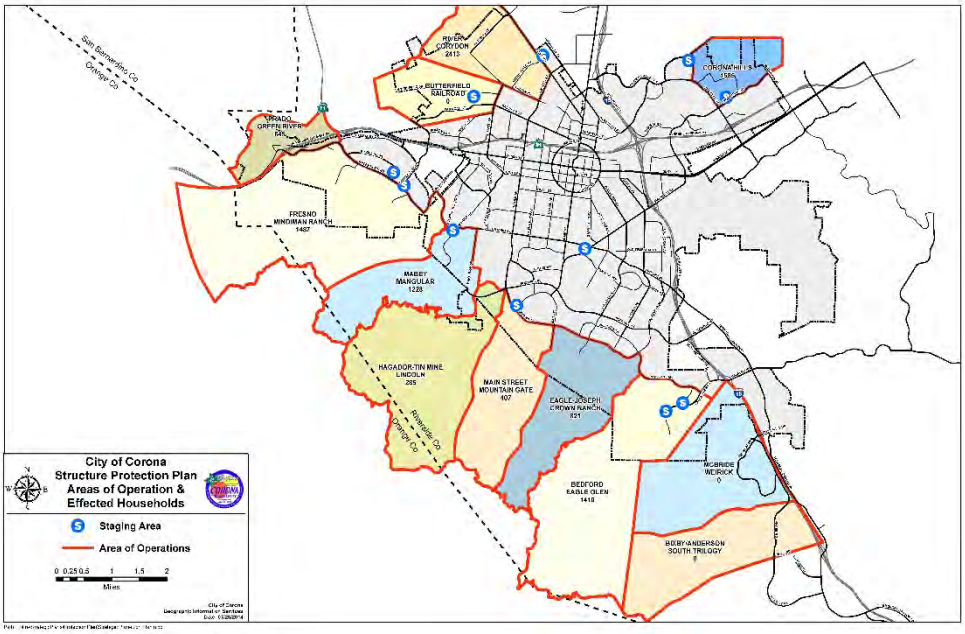


Figure 5-16 Structure Protection Plan Areas

Automatic and Mutual Aid Agreements

The City of Corona actively participates in a wide range of mutual automatic aid agreements designed to improve its capability to response to fire-related emergencies and receive assistance from neighboring agencies. Corona is under contract with the Riverside County Fire Department/CAL FIRE to provide fire protection and suppression services for the unincorporated communities of El Cerrito and Coronita. Under this contract, Corona Fire provides backup services to Home Gardens, secondary to the services provided by County Station #13 in Home Gardens.

Listed in Table 5-10, Corona Fire maintains automatic and mutual aid agreements with surrounding local governmental agencies, including fire districts.

Table 5-10 Mutual and Automatic Aid Agreements

Agency	Type of Agreement
USDA, Cleveland National Forest	Mutual Aid
City of Riverside Fire Department	Automatic and Mutual Aid
Chino Valley Independent Fire District	Automatic and Mutual Aid
Orange County Fire Authority	Automatic and Mutual Aid
Riverside County Fire Department	Automatic and Mutual Aid
City of Murrieta Fire Department	Mutual Aid (Tactical Response)
City of Rancho Cucamonga Fire Dept	Mutual Aid (Tactical Response)
March Air Reserve Base	Mutual Aid
Cal OES Emergency Management	Mutual Aid

Sources: City of Corona, 2019

Corona Fire participates in the SOLAR cooperative plan, which encompasses all agencies with fire protection responsibility where four counties join roughly at the wildland interface areas along the 91, 71, 55, 57, and 241 highways. The agencies involved include Corona Fire Department, CAL FIRE, Chino Valley Independent Fire District, Orange County Fire Authority, Los Angeles County Fire Department, Anaheim Fire Department, Orange City Fire Department, Brea Fire Department, and the US Forest Service. SOLAR is a common platform for mapping, communications, training, pre-designation of facilities, and dispatch centers. Assignment of resources to respond is dependent upon the jurisdiction of the incident and agreements between parties.

American Medical Response (AMR) contracts with the Riverside County Emergency Medical Services Agency to provide paramedic service and emergency medical transport in much of Riverside County, including to all areas within Corona City Limits. The City of Corona does not own the legal rights to provide or to contract for ambulance transport service. The City of Corona provides paramedic assessment service, funded partially by the EMS subscription service, the EMS billing program, and a contract with AMR for paramedic cooperative response, that allows them to slightly increase their response times in different areas throughout Corona.

Public Outreach Programs

The Corona Fire Department in partnership with Cal Fire has published its Ready, Set, Go! Wildfire Action Plan to give citizens the tools needed to prepare for such an event. This publication is provided in two languages – English and Spanish. This plan teaches how to prepare for a fire long before one starts, what to do when a fire is burning, but not yet threatening you and your property, and finally, knowing when to leave property to get out of harm's way and allow firefighters to work. Publications include defensible space and hardening homes, evacuation preparation, and an evacuation guide.

The City, along with Cassidian Communications, offers a service that sends telephone notifications to residents and businesses about wildland fires and debris flow. Because the system uses the 9-1-1 database provided by the local telephone company, only land-line numbers are in the system. Community members also have the options of registering to receive notifications via cellular telephone, text, and/or email. The City also posts mud/debris flow maps prepared by the US Geological Survey for residents in recently burned areas to understand the potential for mud/debris flows.



Corona also maintains a CERT program where community members learn of the various hazards they are most susceptible to in their local jurisdiction (wildland fire being #2 on our hazard ranking), preparedness methods, mitigation efforts and the various types of evacuations, with an emphasis that direction/route can easily change and is incident driven. Preparedness/Prevention Presentations are given at various functions such as HOA meetings, safety fairs, schools, businesses, care facilities, etcetera. These types of outreach programs are provided year-round at a wide variety of venues.

Corona Fire Department maintains additional public information about fire prevention at: https://www.coronaca.gov/government/departments-divisions/fire-department.

Fire Codes and Infrastructure

Fire Regulations and Standards

Corona Fire adheres to local, state, and national regulations that are designed to protect the city from urban and wildland fire. The standards are intended to meet or exceed California Fire Code standards that are periodically updated in addition to local amendments thereto, when adopted by City Council. Corona Fire strives to follow national and state industry performance standards, such as the National Fire Protection Association, to the extent feasible. Table 5-11 provides an abbreviated summary of fire regulations and standards and whether City standards and codes meet or exceed them.

Table 5-11 Corona's and State Fire Regulations

Urban Fire Standards	
State Requirements Met by City	**Municipal Ordinances Exceeding State Requirements**
California Fire Code • Appendix Chapter 4 • Appendices B, C, E, F, G & O California Building Code California Housing Code	Title 15 of the Corona Municipal Code Chapter 15.12, Fire Code • Fire flow, fire hydrant spacing • Premise identification (15.04) • Chapter 15.07, Residential Code
Wildland Fire Requirements	
State Requirements Met by City	**Municipal Ordinances Exceeding State Requirements**
Title 24 Part 9 California Fire Code, • Chapter 49 Wildland Area Requirements • Chapter 5 Fire Service Features Title 14 Section 1280 Natural Resources Code: Fire Hazard Severity Zones California Building Code Chapter 7A, Exterior Construction Standards Government Code 51175-51189: Fire Hazard Severity Zones (Public Resource Code Sections 4201 through 4204). Fire Hazard Severity Zones	Title 3 of the Corona Municipal Code: • Chapter 3.36, Fire Facilities Fees, Definition of High Fire Risk Areas Title 8 of the Corona Municipal Code: • Chapter 8.24, Weed Abatement Regs Title 15 of the Corona Municipal Code: • Chapter 15.04, Class A Roofing • Chapter 15.12, eave protection; fire roads • Chapter 15.16, Fire Hazard Severity Zones • Chapter 15.18, Abatement Regulations • Chapter 15.12. Two points of access required for all new development and when existing density is increased • Chapter 15.12, Fuel Mod Requirements • Chapter 15.12, Brush Clearance around roads • Chapter 15.12, Outdoor Fireplaces

Sources:
City of Corona Municipal Code, 2019; California Building Code, 2019.
Government Codes, Natural Resources Code, miscellaneous statutes
National Fire Protection Standards, selected publications.
City Fire Prevention Standards; City Public Works Street Standards

Water Supply

Corona FIRE has made significant efforts to maintain a reliable water system that is capable of providing an adequate supply of water and achieving sufficient fire flows for buildings of all occupancies. Currently, the City receives more than 90 percent of the ISO points available for water supply. This includes infrastructure (e.g., hydrants), water supply, and fire flows. Corona DWP also implements a water master plan and schedules improvements as part of the City's CIP to maintain, extend, and ensure the long-term integrity of the City's water infrastructure and anticipated water supply.

The City of Corona has specific water supply requirements for providing adequate water for fire-fighting purposes to different buildings based on their size, hazards present, and occupancy. Shown in Table 5-12, this guideline applies to new construction and existing buildings when changes made in the character or use of a building or occupancy affect the delivery of fire protection. These requirements exceed the requirements of the 2016 edition of the CFC Appendix B, as amended by the City of Corona, and are in accordance with the SRA Fire Safe Regulations.

Table 5-12 Corona Water and Fire Flow Requirements

	Code Requirements			
Type of Development	**Fire Flow[1]**	**Duration**	**Fire Hydrants[2]**	**Sprinklers**
One and two family residential dwellings	1,500 gpm at 20 psi	2 hours	300' between hydrants	Required
Multiple-family residential dwellings	2,500 gpm at 20 psi	2 hours	250' between hydrants	Required
Commercial buildings/ occupancy	3,000 gpm at 20 psi	3 hours		Required
Industrial buildings/ occupancy	3,500 gpm at 20 psi	4 hours		Required

Source: City of Corona Fire Department, 2019
1. Fire flows for buildings and/or occupancies with special hazards will be determined based on unique hazard and type of construction.
2. When approved by the Fire Chief, hydrant spacing for one and two family dwellings may be increased to 500' when homes do not front on an emergency access roadway.

Water supplies can be interrupted or curtailed due to drought, fire, earthquake, or power failure. In case of emergency, the City maintains backup generators for critical infrastructure (booster stations, pumps, etc.) and 6 trailer mounted portable pumps. The City also maintains three emergency interties with adjacent water companies, and standby wells. The Riverside Emergency Intertie is at Sampson Avenue, east of Granite Street. The Norco Intertie in Parkview Drive at Hidden Valley Parkway is a one-way metered connection that provides treated water from the City to Norco's water system and vice versa. The third is an emergency connection to the Mills Pipeline supply.

Roadway Access and Egress

Clear emergency vehicle access along well-designed roadways is essential for effective fire suppression. Such access is regulated by the City-adopted and amended CFC and Corona land development standards. City access and egress requirements are in accordance with the 2016 SRA Fire Safe Regulations. Table 5-13 compares City roadway design standards with those required by the 2016 SRA Fire Safe standards.

Table 5-13 Roadway Access and Egress Standards

State Code	State Requirement	Local Code	City Requirement
PRC 1273.01 Road Width	Roads must have minimum two 10-foot traffic lanes, not incl. shoulder and striping	CMC 15.12	Roads shall have minimum unobstructed width of at least 28′ excl. shoulders
PRC 1273.02 Road Surface	Must be of aggregate base and support fire apparatus weighing at least 75,000 lbs	CMC 15.12	Aggregate/concrete base to support fire apparatus of approx. 75,000 lbs
PRC 1273.03 Roadway Grades	Grade for all roads, streets, private lanes, and driveways shall not exceed 16%	CMC 15.12	Fire roads cannot exceed grade of 10% unless approved by CFD
PRC 1273.04 Roadway Radius	Horizontal inside radius is not less than 50′	CMC 15.12	For fire apparatus access roads shall be 25′ inside and 50′ outside radius
PRC 1273.05 Roadway Turnarounds	Minimum turning radius cannot exceed 40′, not including parking.	CMC 16.08	Must have at a minimum 50′ turning radius
PRC 1273.06 Road Turnout	Turnouts must be designed with a minimum of 12′ wide and 30′ long configuration	No CMC provision	City requires turnouts to be individually designed for each project
PRC 1273.07 Roadway Structures	Road structures shall be designed for the maximum load & minimum clearance required by CVC.	CMC 15.12	City follows CFC 503.2.6 requiring bridges on fire apparatus roads to support vehicle weights and have vertical clearance of 15′
PRC 1273.08 One-Way Roads	One-way roads must provide at least 1-12′foot traffic lane exclusive of shoulders	No CMC provision	City and CFD does not approve construction of new one-way roadways
PRC 1273.09 Dead end Roads	Limitations on length based on number and size of parcels per PRC	CMC 16.08	City and CFD does not approve construction of new dead-end roadways; or cul-de-sacs up to 500′ in length
PRC 1273.10 Driveways	Must provide min one 10′ wide traffic lane and 14-15′ horizontal/vertical clearance; turnaround over 300′	City Street Standards	One 10-foot traffic lane. Max grade 10% (residential) or 12% (comm/industrial); turnaround req. if exceeds 150′ in length
PRC 1273.11 Gate Entrances	At least 2 feet wider than traffic lane and min. width of 14′ horizontal clearance and 15′ vertical clearance.	CMC 15. 12 City stand. 118	Unobstructed vertical clearance of at least 15′; and 15′ horizontal clearance

Sources:
Corona Municipal Code, 2019; Public Works Standards, 2019; California Fire Code, 2016

Fuel Modification

In accordance with CFC 4906, the City requires all projects in the VHFHSZ to submit a Fuel Modification Plan. The Plan contains: a wildland fire hazard and risk assessment; fire behavior modeling, assessment of structure ignition in the WUI, fuel mod zone descriptions and treatments, treatment recommendations, and approved plant pallet. As of 2019, the City amended § 4908 Fuel Modification for New Construction. All new buildings to be built or installed in hazardous fire areas shall comply with the following:

1. Prelim fuel mod plans shall be submitted to and approved by the fire code official concurrent with the submittal for approval of any tentative tract map or parcel map or building permit application, as applicable.
2. Final fuel modification plans shall be submitted to and approved by the fire code official prior to the issuance of a grading permit or building permit, as applicable.
3. The fuel mod plan shall address the maintenance of the fuel mod area in perpetuity and meet the criteria set forth in the City's Vegetation Management Guidelines.
4. The fuel modification plan may be altered if conditions change with the prior written approval of the fire code official.
5. All elements of the fuel mod plan shall be maintained in accordance with the approved plan and are subject to the enforcement process outlined in this code.

Vegetation Management

Vegetation management has become a key focus in fire prevention and control in California due to the periodic droughts facing many communities. Corona FIRE implements three vegetation management programs to reduce the potential occurrence and severity of fires on public and private property. These are:

- **Weed Abatement.** Clearing vegetation helps to prevent fires from leaving open space lands, entering the city, and threatening infrastructure, property, and people. Under a Cooperative Agreement with the California Department of Corrections and Rehabilitation (CDCR), CalFire operates the Prado Conservation Camp and provides weed abatement in Corona and the surrounding wildland areas. The Conservation Camp also assists in fuel clearance activities inside Chino Hills State Park.
- **Fire Hazard Abatement**. Corona's Fire Hazard Abatement Program, authorized under CDC 8.24, is intended to reduce the potential of vegetation fires that can result when dry and overgrown vegetation constitute a fire hazard. The Fire Hazard Abatement Officer surveys properties and will, if a public nuisance exists, notify property owners. Violations must be abated within 30 days of the date of notice. In 2018, more than 320 hazardous vegetation issues were addressed.
- **Defensible Space Regulations**. In 2019, the City adopted CFC §4906, requiring hazardous vegetation and fuels around buildings and structures to be maintained in accordance with a) Public Resources Code, §4291; b) CCR, Title 14, Division 1.5, Chapter 7, Subchapter 3, §1299 (see "General Guideline to Create Defensible Space"); c) Government Code, §51182; d) CCR CCR, Title 19, Division 1, Chapter 7, Subchapter 1, §3.07; and e) Corona Vegetation Management Guidelines."

Fire Breaks and Fuel Treatments

The CAL FIRE Riverside Unit and the USFS also cooperate on maintaining the fuel breaks and truck trails along the Main Divide Truck Trail and down main ridgelines into the Temescal and Corona Valleys. These truck trails are vital ingress and egress routes for fire suppression resources and continual maintenance is coordinated thru cooperative agreements with state, federal and county agencies and dependent upon funding. The intent is to contain wildland fires emanating from the Cleveland National Forest from reaching urban areas such as Temecula, Corona, and others that front the forest.

Figure 5-17 shows fuel breaks which have received treatment by the US Forest Service. Data on Cal FIRE fuel treatments in the SRA in the Gavilan Hills is not available.

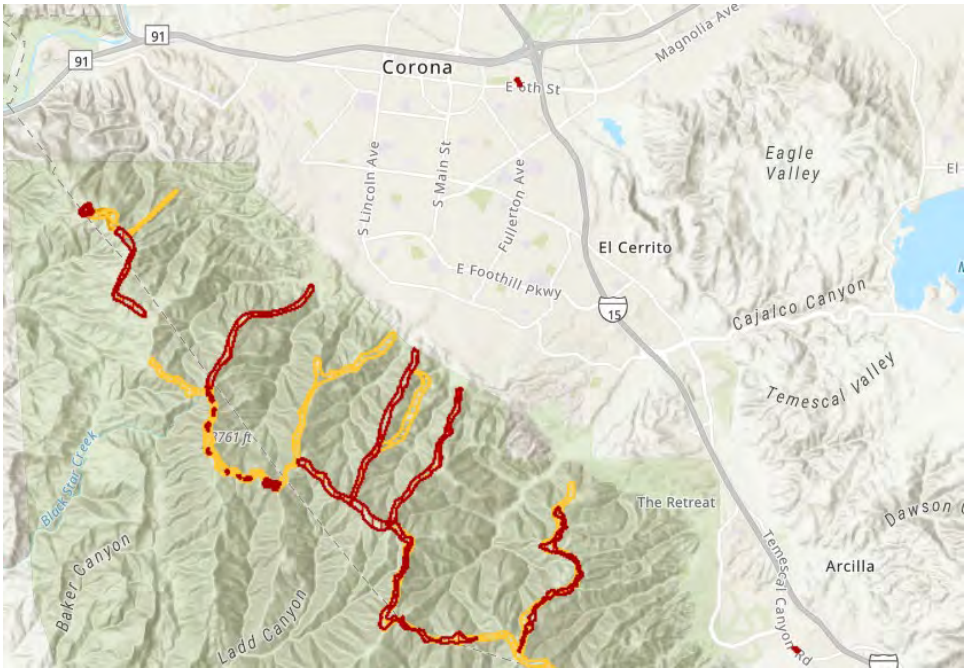


Figure 5-17 USFS Fuel Treatment Projects

Responsibility for fuel break maintenance and treatment is fragmented between local, state, and federal agencies. Funding limitations have resulted in infrequent treatments. Cal FIRE's Vegetation Management Program (VMP) is a cost-sharing program authorized for SRA lands in accordance with Title 14, CCR, Chapter 9.8 Chaparral Management, §1560-1569.6 and Public Resources Code §§4461 et. seq. VMP allows private landowners to contract with CAL FIRE to use prescribed fire to further fire protection goals. As of 2019, the BOFF is proposing the California Vegetation Treatment Program (CalVTP) to further reduce wildfire risk on SRA lands. There is significant amount of SRA land in the Gavilan Hills.[8] BOFF has created a statewide fuel modification map and PEIR that will allow lead agencies to use for proposed fuel treatment projects.

[8] https://bofdata.fire.ca.gov/projects-and-programs/calvtp/

Evacuation Routes

Government Code 65302 requires the Safety Element address a city's evacuation routes. The Cal FIRE Safety Element checklist also requires cities to address evacuation routes. Given the natural disasters witnessed in the past few years where significant property damage and loss of life occurred due to inadequate evacuation routes and/or procedures, this topic has become an increased focus in state law. In addition, SB 99 (2018) will require the Safety Element, upon the next revision of the housing element on or after January 1, 2020, to include information identifying residential developments in hazard areas that do not have at least 2 emergency evacuation routes.

Regional access to and from Corona is limited to the Interstate 15 or State Route 91. Several larger arterials in the city funnel traffic to larger arterials and freeways. At the same time, most major roadways and transit routes exiting the community are crossed by one or more disaster prone areas–including Alquist Priolo, very high fire severity hazard zones, 100-year flood zones, dam inundation zones, and other hazards. Any of these disasters can cause significant damage to transportation infrastructure, preventing or impeding access by emergency responders and evacuation by residents.

For areas in the wildland/urban interface, the City has developed Structure Protection Plans (SPPs) to address evacuation routes. The Riverside County Strategic Contingency Plan that coincides with the Corona SPP incorporates these routes. The latter is a confidential document and is not available to the public. However, it is used by public safety professionals (fire, police, transit, etc.) employed by the affected jurisdictions. The City also has established evacuation plans and protocols to ensure the safe and orderly notification and evacuation of people in Corona should the need arise.

Ongoing projects are underway to improve the resilience of Riverside County cities. Resilient IE is a collaborative effort between WRCOG and the San Bernardino County Transportation Authority (SBCTA), funded by Caltrans, that is working to support regional and local efforts to prepare for and mitigate risks associated with climate adaptation and transportation infrastructure. This project includes:

- Regional climate collaborative, "Inland Empire Regional Climate Collaborative"
- Revision to WRCOG's community vulnerability assessment (VA)
- Pilot project assessing the true, cost of a downed or damaged transportation asset
- City-level, climate-related transportation hazards and evacuation maps
- A climate resilient transportation infrastructure guidebook and
- A regional climate adaptation and resiliency template general plan element

As part of the 2019 Building Code adoption process, Corona Fire has amended the Fire Code to require two points of access for all new development and for areas proposing increased residential densities. In addition, Corona Fire has begun the process of identifying areas of the community where there is not a minimum of two egress routes for people to travel. These areas are predominantly older rural areas of the community or in areas in the periphery of Corona. As part of the Wildfire Assessment and future CWPP, the City of Corona will be addressing these susceptible areas in greater detail.

Fire Service Standards

This TBR is not intended to evaluate fire services, but rather provide a summary of existing conditions to support the general plan. The following summarizes several findings on service delivery standards and future challenges with meeting them. Ongoing operational effectiveness studies are addressing the particular issues involved.

Insurance Service Officers (ISO) Standards

The ISO is a company that serves insurance companies, business, cities, and others by providing information about risk. ISO analyzes objective data and assigns a Public Protection Classification (PPC) that measures the level of fire protection afforded in a community. Communities are ranked on a 10-point scale, with Class 1 representing an exemplary fire suppression program and Class 10 indicating a program that does not meet ISO's minimum criteria. A community's PPC depends on need fire flows, emergency communications, fire department operations, and overall water supply.

The Corona Fire Department's commitment to service is evidenced by the dedication of resources to improve the ISO rating over time. In 1935, the City received an ISO rating of 9, when 9 was the lowest possible rating. The ISO rating improved to a 6 in 1950, to a 4 in 1970, and to a 3 in 1980. In 1990, the Corona Fire Department joined a select group of departments statewide with a rating of 2. Each reduction in the rating number results reduces fire insurance rates by approximately 7 percent. Nationwide in 2016, only 2.7 percent of ISO reviews resulted in an ISO rating of 1 or 2. Information on the ISO rating for Riverside County unincorporated areas is not available.

National Fire Protection Association Response Standards

The NFPA has issued response standards to ensure that emergency medical service can be provided in an effective manner and that fires can be contained. The NFPA recommends a total response time (call processing, turnout, and travel time) within 7 minutes for first responders, either emergency medical services or first unit responding. For multiple-unit incidents such as building fires, the outer NFPA 1710 standard is 11 minutes total reflex time. Both measures should be met 90 percent of the time.

The City's fire response standard in the existing General Plan is to ensure fire staffing and facilities are expanded commensurably to serve the needs of the City's growing population and business community to maintain appropriate total response times. Corona Fire Department has internal policies that address various response standards. While the Corona Fire Department strives to meet NFPA standards, it is recognized that these standards are difficult to satisfy in several scenarios: 1) response to incidents along the freeways particularly when traffic congestion is high, 2) response to simultaneous incidents that require deployment from several fire stations, and 3) responses to accidents, emergencies, and wildfires along the periphery of Corona.

It should be noted that development pressures have grown along the City's periphery. In addition, existing deficiencies and needs exist within the urbanized areas. Should service demands increase, the City would need additional stations, equipment, and staffing to continue to provide timely response and address community expectations.

5.7 IMPLICATIONS FOR THE GENERAL PLAN

Corona has many environmental hazards that present potential risks to the safety of residents, commerce, and personal property. While the risks vary according to whether development is located on the valley floor, near industrial and transportation land uses, or on the periphery, every neighborhood is subject to potential hazards. Since a fundamental mission of the City is to protect public health and safety, understanding the changing nature of safety hazards is a key part of that effort.

Chapter 5 of the TBR, Environmental Hazards, includes a description and evaluation of environmental hazards in Corona to inform the General Plan and EIR.

5.7.1 Issues for Consideration

» **Seismic and Geologic Hazards.** Corona is flanked by the Elsinore fault zone along its west-southwest border. This fault zone and regional faults can produce earthquakes up to 7.0 magnitude. As a result of earthquakes, the City is subject to liquefaction, surface rupture, seismic ground shaking, and landslides. Geologic hazards, such as corrosive soils, are more of an everyday concern with large swaths of Corona underlain by soils corrosive to steel and concrete. The City has adopted state-mandated safety codes to address these concerns, which are acknowledged as some of the most stringent codes and regulations in the nation.

  However, concern remains. Of particular concern is vulnerable structures—hospitals, health care facilities, schools, and mobile homes—built decades ago in accordance with standards at that time. Not all of these land uses have been upgraded to meet current building codes or are required to be retrofitted to withstand high-magnitude earthquakes or geologic hazards. For instance, mobile home units typically perform poorly in natural hazards, but they are not required to have bracing to permanent foundations. Similarly, hospitals statewide have been slow to complete upgrades mandated by the Alquist Act.

» **Flooding Hazards.** Corona is subject to flooding hazards due to storm events and inundation hazards due to its reservoirs. As of 2017, approximately 1,808 acres or 7% of the community is designated within the 100-year flood plain and 4,150 acres or 16% is within the 500-year flood plain. Moreover, seven dams whose inundation paths traverse the City are rated as significant or high hazards. Approximately 4,569 (18%) acres are in the dam inundation zones. While the 100-year flood zone generally follows the boundaries of Corona's major waterways, large swaths of central Corona are subject to the 500-year flood.

  To protect the community from flooding, the City has an aggressive capital improvement program to remedy deficiencies in drainage infrastructure that may lead to flooding during storm events. State law encourages dam operators to submit inundation evacuation plans, but the state does not enforce compliance. The issues with flooding hazards are largely related to vulnerable structures—mobile homes, schools, airports, infrastructure—and areas subject to debris flows. As FEMA regulations change, there may be opportunities to further protect the city from flooding events, including more routine urban flooding.

» **Hazardous Materials**. Corona has approximately 800 licensed businesses that use/generate hazardous materials or waste and 23 hazardous waste transporters. Although Corona does not have hazardous waste disposal sites, it does have several solid waste facilities, including 1 landfill (El Sobrante), 3 inert engineered fill facilities, 2 closed landfills (Spanish Hills, Corona Disposal), and 3 active transfer/processing sites. It also has 13 used oil collection sites and 16 waste tire sites. Additional sites produce medical waste that requires special transport and disposal. The City also has major infrastructure (railroads and freeways) in which trains and trucks transport hazardous waste through the community.

» **Airport Hazards**. Municipal airports can present safety and noise hazards. Corona's municipal airport is predominantly a recreational airport. Since accidents and several high-profile collisions peaked in the 1980s, airport safety has improved, and the number of accidents and collisions has declined every decade since then. There have also been no recorded wildlife strikes that would present a threat. Because the airport is not planned for expansion, will remain primarily recreational in nature, and only lower elevation buildings surround it, the Corona Municipal Airport poses no unique hazards that cannot be addressed adequately.

  The 2004 General Plan did not address the airport as the annexation occurred during the period in which the general plan was being adopted. As a result, the goals and policies from the Temescal Area Plan were not incorporated into the 2004 General Plan update. In addition, the 2004 General Plan was not reviewed for consistency by the Riverside County Airport Land Use Commission. Riverside County ALUC mentioned that there may be an inconsistency in land use plans, due primarily to the fact that the general plan update had not been formally reviewed. Analysis contained in this chapter showed that the plans appeared to be consistent.

» **Fire Hazards**. Corona has a complex fire environment. Hundreds of businesses in Corona use, manufacture, or store hazardous materials. It has a housing stock of approximately 50,000 units, mostly two- to four-story structures. The City has been able to effectively respond to urban fire demands. According a 2019 fire performance evaluation, the current fire stations are optimally placed, allowing for maximum coverage given the existing seven fire stations. However, emergency response times increase gradually for areas outside the core suburban fabric.

  Additional challenges are present. For instance, many older industrial buildings in the industrial sector lack modern fire sprinkler systems that support fire suppression efforts. The increase in heights allowed for commercial development also requires specialized equipment (ladder trucks) to respond to fire hazards. Fire stations continue to age, and the 2019 Assessment noted that there is a significant unmet need for capital investments to maintain City fire fighting infrastructure. Progress toward this need has been hampered by limited fiscal resources.

  Wildland fires remain the most serious and frequent hazard faced by Corona. Corona is also surrounded by extensive open space areas that are susceptible to wildfire and encroachment into the community. While few areas in the city are subject to wildfire hazard, most of the undeveloped area surrounding the city has burned multiple times and is designated a very high fire hazard severity zone. As mentioned earlier, there is no integrated program for fuel modification and

treatment in the VHFHSZ; responsibility is fragmented between local, state, and federal agencies—resulting in a lack of consistent preventive treatments.

Despite the challenges for fire prevention and suppression in the community, the City has been successful in maintaining a very high Insurance Officers Rating (ISO). In 1990, Corona Fire joined a select group of departments statewide with a rating of 2 out of 10, with 1 being the highest or best rating. Nationwide in 2016, only 2.7 percent of ISO reviews resulted in an ISO rating of 1 or 2. Further implementation of the 2019 Assessment findings will further improve City fire services.

- **Climate Change and Resiliency.** Corona's primary climate change concerns are drought, wildfire, heat, and flooding. Drought will reduce potable water supplies and vegetative cover, which could lead to more frequent wildfires. Wildfires pose a risk to public health, safety, property, and vulnerable populations. Drought and wildfire would threaten existing ecosystems and habitats and increase the risk of landslides and erosion. Extreme heat could result in an increase in wildfires, threatening public health and safety, existing ecosystems and habitats. Flooding could damage roads, bridges, electrical lines, pipelines, and other infrastructure. Heat events also increase risk of mortality, particularly among vulnerable groups.

  Ongoing projects are underway to improve the resilience of Riverside County cities. Resilient IE is a collaborative effort between WRCOG and the San Bernardino County Transportation Authority (SBCTA), funded by Caltrans, that is working to support regional and local efforts to prepare for and mitigate risks associated with climate adaptation and transportation infrastructure. This project includes:

  - A newly established regional climate collaborative, the "Inland Empire Regional Climate Collaborative" (IERCC)
  - A revision to WRCOG's community vulnerability assessment (VA) and establishment of a VA for San Bernardino County
  - A pilot project assessing the true, community cost of a downed or damaged transportation asset
  - City-level, climate-related transportation hazards and evacuation maps tha can be used for general plan safety elements
  - A climate resilient transportation infrastructure guidebook for use by jurisdictions and
  - A regional climate adaptation and resiliency template that can be adapted for general plan elements

  The general plan update will address climate change and resiliency throughout the document. The City has also updated its Climate Action Plan (2019) to address the potential public health and safety concerns due to drought, wildfire, heat, and flooding. The CAP offers a range of adaptation strategies designed to improve the resiliency of the City in face of these climate change hazards and protect vulnerable assets and population susceptible to climate change impacts.

5.7.2 Opportunities

Corona faces a wide range of manmade and natural hazards—like most cities in the state. Many of these hazards cannot be completely mitigated or prevented. They remain part of the fabric of Corona. The best defense for keeping Corona safe from hazards is to focus on prevention, risk reduction, and control measures while maintaining the capability to respond in an effective manner during a disaster. The general plan can further these objectives.

- **General Plan Vision**. Safety is a principal theme of the general plan's vision. However, it appears to be focused more on safety from crime rather than on natural and manmade hazards. Given the change in general plan safety legislation, the principle could be broadened to address natural and human-caused safety concerns beyond the normal purview of safety related to crime. This would provide the framework for an enhanced discussion of safety in the general plan.

- **General Plan Policies**. While the safety element provides guidance on human-caused and natural safety hazards, much more emphasis should be placed on additional issues to address SB 1241, airport safety, and other local concerns. These include:

  - Fire safe design, fuel modification around homes, and vegetation clearance.
  - Adequate water supply and fire flow based on structure, use, and occupancy.
  - Compliance with Subdivision Map Act requirements for ingress and egress.
  - Land use compatibility issues with the airport.
  - Evacuation routes consistent with AB 99.
  - Retrofit of mobile homes, unreinforced masonry, schools, hospitals, etc.
  - Prohibition or hardening of new essential public facilities, significant hazardous material users, and other sensitive uses in known hazard zones.
  - Minimization of greenhouse gas emissions, renewable energy and access, energy efficiency and flood-resistant development, etc.

- **General Plan Implementation**. The general plan could contain new programs for addressing safety issues coordinated with the recently adopted hazard mitigation plan. Specific programs could be proposed or designed to:

  - Encourage the retrofit of mobile homes with bracing and other devices to protect seniors and lower income families living in those units.
  - Encourage compliance with new safety requirements for health care facilities promulgated by the Office of Statewide Health Planning and Development.
  - Study measures to improve safety for soft-story construction, concrete tilt-up construction, and other vulnerable structures.
  - Encourage the installation of fire sprinklers in older industrial buildings, many of which are in the City's industrial districts.
  - Develop and publish evacuation routes that can be incorporated into the hazard mitigation plan and general plan update
  - Include a broad base menu of programs to implement the climate action plan and improve the City's resiliency against the effects of climate change.

6 Health and Wellness

This chapter addresses health and wellness issues relating to quality of life in Corona. These include current health conditions of residents, access to health care, the natural environment, built environment, and environmental justice.

6.1 INTRODUCTION

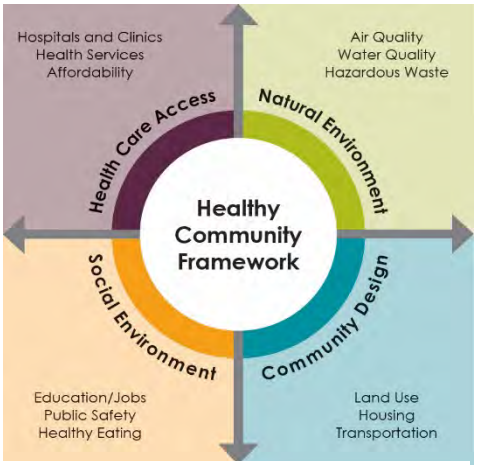
The topic of health and wellness has gained momentum over the past decade as civic leaders have become increasingly aware of its relationship to community design. This awareness has not only spearheaded a "healthy communities" movement but also allied topics of social equity and environmental justice. Similarly, the federal government, with its 2020 Healthy People Initiative, has recognized the role that the environment plays in our health and ultimately, quality of life.

A healthy community has been defined in many different ways by the California Planning Roundtable, National APA, and various health organizations. For purposes here, a healthy community is one that offers a positive physical, social, natural, and economic environment that supports the health and well-being of all people and enables them to live to their fullest potential.

A healthy community is one that offers a positive physical, social, economic, and natural environment that supports the health and well-being of all its members and enables all people to live to their fullest potential.

In response to the health issues in many communities, urban planners and public health officials are exploring how to apply and integrate principles of health into their communities in a meaningful way. This includes aspects such as:

- **Natural Environment**—where clean air, clean water, and soil free from hazards provide a healthful environment for all residents.
- **Community Design**—where the type, location, and quality of land uses, transportation, parks, and housing support health.
- **Social Environment**—where homes, schools, workplaces, and neighborhoods provide conditions that support health and wellness.
- **Health Care Access**—where quality health services and facilities are affordable, accessible, and culturally appropriate.



Healthy Community Framework

This chapter discusses the topic of healthy communities in greater detail as well as the corollary topics of environmental justice and social equity.

6.2 HEALTHY COMMUNITY

This section describes the regulations covering the topic of healthy communities, existing health conditions within the City of Corona, and issues and opportunities for consideration for the Corona General Plan update.

6.2.1 Regulatory Framework

While the topic of healthy communities is not a mandated topic for comprehensive general plans, there are several key federal and state planning efforts that provide a framework for addressing healthier communities in urban planning.

Healthy People (HP) 2020

The Healthy People Initiative is the nation's framework for improving the health of all Americans and is managed by the US Department of Health and Human Services. HP2020 is in its third iteration; its mission is fivefold: 1) identify national health improvement priorities; 2) increase public awareness and understanding of the determinants of health, disease, and disability and opportunities for progress; 3) provide measurable objectives and goals at the national, state, and local levels; 4) engage multiple sectors to strengthen policies and improve practices; and 5) identify research, evaluation, and data collection needs. HP2020 objectives are used to track health outcomes and make program adjustments to align with federal health goals.

Health and wellness are influenced by the places in which people live, learn, work, and play. Communities, including homes, schools, public spaces, and work sites, can be transformed to support well-being and make healthy choices easy and affordable.

National Prevention Strategy, 2014

National Prevention Strategy and Action Plan

In 2011, the National Prevention Council released the National Prevention Strategy: America's Plan for Better Health and Wellness. This plan encourages a range of partnerships aimed at addressing prevention through four strategic directions: healthy and safe community environments, clinical and community preventive services, empowering people, and eliminating health disparities. Priorities of the plan range from active living, healthy eating, injury and violence reduction, and other topics known to reduce the prevalence of illness. This plan is further augmented by an Action Plan produced by the National Prevention Council. These plans represent a fundamental shift in public health that focuses on tangible measures to prevent injury and chronic disease, rather than the traditional paradigm of treatment.

California Health in All Policies

Pursuant to Executive Order S-04-10, the Strategic Growth Council, a state entity responsible for interagency collaboration to recommend policies and investment strategies, was charged with establishing a Health in All Policies Task Force. This Task Force was charged with identifying priority programs, policies, and strategies to improve the health of Californians while advancing goals such as improving air and water quality, protecting natural resources and agricultural lands, increasing the availability of affordable housing, improving infrastructure systems, promoting public health, planning sustainable communities, and meeting the climate change goals. Its efforts have established health and wellness as a priority that should be considered in all state and local government actions.

General Plan Guidelines

The protection of public health, safety, and welfare has historically been a legal basis for local regulation, including those to protect public health. However, the topic of healthy communities has only recently gained traction in the field of urban planning. The American Planning Association published a Sustainability Policy Framework that contains the following principle: "ensure that public health needs are recognized and addressed through provisions for healthy foods, physical activity, access to recreation, health care, environmental justice, and safe neighborhoods."

OPR Guidelines indicate that not only access to health services, but also social, environmental, and economic factors have a significant impact on health outcomes. The built environment is a key component of those factors and can affect all chronic health conditions. Walkable neighborhoods promote physical activity, improving health outcomes. Other links between health and environment continue to emerge; for example, the impact of green space on mental and physical health. These types of considerations also relate directly to environmental justice.

Neither California law nor OPR's General Plan Guidelines require general plans to include a healthy community element. However, OPR indicates that should such a healthy community element or topic be included, it would be consistent with Government Code 65303. Under this code, a general plan may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the city. For jurisdictions desiring to include a healthy community element, OPR's General Plan Guidelines recommend the usefulness of applying a Health-in-All Policies approach to such an endeavor.

Riverside County General Plan

The Riverside County General Plan was one of the first countywide plans to contain a chapter dedicated to the health of communities. Throughout the general plan, topics such as parks and recreation, transportation improvements that encourage active living, public safety and crime reduction, mitigation or prevention of land use compatibilities, improvement of air quality, and many other topics address the intersection of planning and public health.

The Riverside County General Plan also contains a Healthy Community Element that addresses the following topics within a larger health framework:

- Land use and community design
- Transportation systems
- Arts and culture; social capital
- Complete communities
- Parks, trails, and open space
- Access to healthy foods and nutrition
- Healthcare and mental healthcare
- Schools, recreational centers, and day care centers
- Environmental health
- Other associated topics related to health

Riverside Community Health Improvement Plan (CHIP)

In 2012, the County created the Healthy Riverside Health Initiative to advance a broader health improvement initiative, the Strategic Health Alliance for Pursuing Equity (SHAPE), to address health and social issues that impact County residents. SHAPE produced a CHIP to address issues identified in the Riverside County Community Health Assessment. This plan focuses on four main priorities:

1. Creating healthier communities—by improving community safety; ensuring access to clean air and water, healthy food and housing; and improving neighborhood planning efforts that promote health.
2. Promoting healthy behaviors—by reducing obesity-related chronic diseases; reducing the use of tobacco, alcohol, and drugs; and reducing preventable illness.
3. Connecting and investing in people—by increasing access to education and employment opportunities; and leveraging and strengthening collaborations.
4. Improving access to care—by expanding the health system capacity to provide quality care; expanding mental health services; increasing access to preventive services; and improving access to timely and understandable health information.

City of Corona Heal Resolution

In 2011, the City or Corona adopted Resolution 2011–075, entitled "A Resolution of the City Council of Corona, California, supporting the League of California Cities Healthy Eating and Active Living Cities Campaign." This resolution committed the City to pursuing two strategies to improve community health and well-being: 1) supporting a built environment that encourages an active lifestyle; and 2) increasing access to healthy food choices for its residents. Following its adoption, the City Council created the Healthy Corona program to improve the health of City residents, to promote a healthy and active lifestyle amongst the community, to encourage residents to utilize parks and recreational facilities in the community, to engage community members in activities that lead to healthier lifestyles, and to provide residents with knowledge and skills needed to improve their attitudes and behaviors concerning health.

Corona 2004 General Plan

Corona's current General Plan was prepared in the early 2000s and adopted in 2004, prior to the recognition by many state and federal organizations of the value of addressing health and wellness in the general plan. Nonetheless, the City's current general plan addresses topics related to the health of the community. This includes topics such as land use and community design, recreational facilities and programs, the health and quality of the environment, and other topics that improve the health of the community. As discussed later in this chapter, this general plan update provides an opportunity to prioritize health through the vision, a health element with goals and policies, and a specific implementation program designed to achieve the City's vision. This can be used as a vehicle for Healthy Corona to further its agenda.

6.2.2 Existing Conditions

This section describes existing conditions for Corona with respect to health and wellness. This includes the health of residents; the condition of the built environment, natural environment, and health care infrastructure; and other relevant topics.

Introduction

America's health status among peer countries is well documented. As late as 1980, the US life expectancy was among the highest in the world, ranking 15th out of the 34 OECD nations.[1] Since then, America's life expectancy has continued to improve, but its relative ranking has dropped to 28th and is now the lowest of all western industrialized nations. Not only is the United States falling behind in life expectancy, but many Americans experience poor health.

According to the Centers for Disease Control and Prevention, chronic diseases are the leading causes of death in the United States. Seven of the top ten causes of death are due to chronic diseases. Heart disease and cancer account for half of all deaths. Moreover, almost half of America's adults live with at least one chronic health condition that limits health, activity, work, and quality of life. Part of this is due to our aging population, yet much is due to unhealthy behaviors.

Obesity and diabetes (along with other conditions resulting from everyday choices) are just two of the more recognized culprits. Most countries have experienced an increase in these chronic diseases, but obesity among American adults has doubled during the past two generations to 35 percent. Our next generation is also at risk; we have the 5th highest percentage of overweight and obese children and the 6th highest percentage of adults with diabetes among peer nations.

Although California is certainly one of the healthier states, Riverside County and its cities face the same health issues. Corona is not an exception. While Corona is better off than many peer communities, it could still be healthier. Improved diets, more physical activity, less substance use, and increased preventive care measures—all these measures can significantly improve health outcomes and advance quality of life. And quality of life is an expectation for those who live or work in Corona.

The following section contains a discussion of key issues affecting the overall health and well-being of residents in Corona. It begins with a portrait of current health outcomes in the community compared to the county and state. Focus then turns to several critical issues influencing community health. This includes access to health care/preventive care, the built environment, and health behaviors that contribute to or detract from healthy outcomes.

[1] U.S. Health in International Perspective: Shorter Lives, Poorer Health. National Research Council and Institute of Medicine. Washington, DC: National Academies Press, 2013; PlaceWorks, a Practical Guide for Planning Healthy Communities, 2014.

Health Outcomes and Behaviors

Health Outcomes for Youth

Information on the health of youth and children in Corona is limited as most health surveys are targeted to adults. Therefore, information is derived primarily from surveys administered by the Corona-Norco Unified School District (CNUSD) and the California Health Interview Survey. Surveys focus on three broad outcomes—overall health, physical health, and mental health.

Key findings are summarized below and in Table 6-1.

» **Physical Health.** Corona's children and youth experience the same health outcomes as those in other communities. Rates of asthma and fair or poor health are similar to county and statewide averages. The percentage of students in the health fitness zone is also similar to county and statewide averages.

» **Obesity.** For youth who or overweight and obese, Corona has a lower overweight and obesity rate than the county but slightly higher than California. More than one-third of all youth are overweight or obese, leaving significant room for improvement.

» **Mental Health.** Current surveys do not adequately track mental health of youth. However, school surveys confirm that 26 to 32 percent of youth in grades 7 to 11 experience sadness and hopelessness extending more than 2 weeks straight. Although similar to county and state averages, this leaves room for improvement.

» **Youth Delinquency.** Corona youth arrested for felonies is significantly below county and state averages. No information is available on status offenses. School suspension rates are also well below county and state averages. Only gang involvement is similar for youth in Corona, the county, and state of California.

Table 6-1, *Health Outcomes for Children and Youth*, lists common health outcomes affecting Corona children and youth.

Table 6-1 Health Outcomes for Children and Youth

Percentage of Children/Youth	Crude Prevalence Rates		
	Corona	County	California
• Ever diagnosed with asthma (ages <18)[1]	15.7	14.5	14.6
• Fair or poor physical health (ages <18)[1]	4.9	4.8	5.2
• Overweight or obese (ages 12–17)[1]	34.8	38.3	33.1
• Students in health fitness zone (5–9th grades)[2]	64	62	61
• Sadness and hopelessness (7–11th grade)[2]	26–32	27–34	26–34
• School suspension | expulsion rate in 2015[2]	2.4 | 0.1	4.3 | 0.2	3.8 | 0.1

Source:
[1] California Health Interview Survey, 2014
[2] School District Physical Fitness Tests, CDE, 2015/2016

Health Behaviors for Youth

Health outcomes in most communities result from lifestyles and choices. According to the federal Centers for Disease Control, health behaviors that have the greatest influence on healthy or unhealthy outcomes are the level of physical exercise, the frequency of alcohol/tobacco/other drug use (ATOD), adequacy of diet and nutrition, and mental health. The City of Corona shows some of the same patterns.

Based on surveys taken at CNUSD schools, key health behaviors of youth in Corona are summarized below.

» **Physical Activity.** While many schools have improved requirements for physical activity in recent years, still more than 80 percent of youth in Corona lack regular exercise. On the positive side, 71 percent of 5th, 7th, and 9th graders pass the school aerobic capacity tests—far higher than the county and state.

» **Diet and Nutrition.** Adequate nutrition is a concern for youth in most communities. School surveys shows that barely half have of Corona's youth consumes the recommended amounts of fruits and vegetables. These statistics are similar to statewide averages.

» **Substance Abuse**. An average of one-third of the secondary grade students in Corona-Norco schools reported "current" use of alcohol, tobacco, or drugs, although the prevalence is lower than the county and California. The prevalence of current smoking and vaping is also comparable to county and state averages.

» **Community Violence**. Approximately 29 to 36 percent of 7th to 11th graders have been harassed or bullied, below rates reported in the county and state. In addition, 10 to13 percent of 7th to 11th graders have been in a physical fight in the past year. Gang involvement is similar to county and statewide averages.

Table 6-2, *Health Behaviors for Children and Youth*, lists common health behaviors affecting Corona children and youth, compared with county and state averages.

Table 6-2 Health Behaviors for Children and Youth

Percentage of Children/Youth	Crude Prevalence Rates		
	Corona	County	California
• Lack of regular exercise (ages 5–17)[1]	83	82	79
• Consumes < 5 servings of fruits & vegetables daily[2]	52	—	47
• Current Substance Use for 7th, 9th and–11th grades[3]	6|19|29	10|23|33	11|24|35
• Current smoking | E-cigarettes (11th grade)[3]	6 | 15	6 | 14	9 | 16
• Gang Involvement[3]	6.0	6.0	6.0
• Harassed or Bullied at School (7th–11th grades)[3]	29–36	31–37	31–40

Source:
1. California Health Interview Survey, 2014
2. Community Commons, Kaiser Permanente
3. California Healthy Kids Survey, Selected Reports 2013–2015

Health Outcomes for Adults

The life expectancy of Corona residents ranges from 78 to 80 years, similar to the average for California (80.7 years) and the nation (78.8 years). Many different factors contribute to one's life expectancy, including: health conditions, health behaviors, genetics, and injuries and accidents. The 500 Cities Project is the only national survey of similarly populated cities in the nation that tracks the health outcomes of residents.

Among key findings, Corona's health outcomes are slightly poorer than in California as a whole, but are generally better than the nation. Specific findings include:

» **Physical and Mental Health.** Corona adults have similar rates of physical and mental health as residents in the state of California and the nation.

» **Chronic Diseases.** Three of the most prevalent chronic diseases (high blood pressure, diabetes, and coronary heart disease) are related to diet and nutrition.

» **Smoking and Air Quality**. Three health indicators (asthma, chronic obstructive pulmonary disease, and cancer) are related to smoking and air quality.

» **Dental Care.** The prevalence of tooth loss among seniors is due to a lack of regular dental care, diet, and nutrition.

Table 6-3, *Health Outcomes for Adults*, lists common health outcomes affecting Corona adults, with benchmarks for comparison with state and national averages.

Table 6-3 Health Outcomes for Adults

	Prevalence Rates		
Percentages of Adults	**Corona**	**State**	**Nation**
• High blood pressure	29.1	28.4	30.2
• Arthritis	20.3	19.9	23.5
• Physical health not good for ≥14 days	12.1	12.6	11.6
• Mental health not good for ≥14 days	11.6	11.1	11.5
• All teeth lost among seniors	11.4	9.0	15.4
• Diagnosed diabetes	9.7	9.9	9.4
• Current asthma	8.4	7.7	8.8
• Cancer (excluding skin cancer)	5.7	5.8	5.9
• Coronary heart disease	5.4	5.3	6.0
• Chronic obstructive pulmonary disease	5.2	4.7	6.1

Source: 500 Cities Project, Local Data for Better Health, CDC, 2014

Note: All prevalence rates for health outcomes are age-adjusted to account for differences in population age characteristics between cities, California, and the nation. Although not shown, the survey also showed a low prevalence of stroke (2.5%) and chronic kidney disease (2.5%).

Health Behaviors for Adults

According to the CDC, unhealthy behaviors such as physical inactivity, excessive drinking, obesity, and insufficient sleep are responsible for the vast majority of chronic diseases, injuries, and poor health evident in communities today. The 500 Cities Project is the only national survey of similarly populated cities in the nation that tracks the health outcomes and behaviors of residents.

Findings are summarized below:

» Being overweight or obese increases the risk for heart disease, stroke, hypertension, diabetes, osteoarthritis, and cancer. Corona's obesity rate is comparable to the state and nation, but the rate varies up to 66 percent between tracts.

» Excessive alcohol use can lead to premature death and many health and social problems, including vehicle crashes, violence, suicide, hypertension, heart attacks, and other conditions. Corona's rates mirror those in California and the nation.

» Regular physical activity lowers the risk for heart disease, stroke, high blood pressure, diabetes, cancer, and depression. While Corona's rates mirror state and national averages, the activity rate varies by 125 percent between census tracts.

» Current smoking increases the risk for heart disease, stroke, multiple types of cancer, and chronic lung disease. Corona's smoking rates mirror the state and national average, but the rates vary more than 90 percent between census tracts.

» Insufficient sleep, defined as less than seven hours per night, is associated with diabetes, heart disease, hypertension, obesity, and depression. This is one statistic where Corona's average exceeds state and national averages.

Table 6-4, *Unhealthy Behaviors for Adults*, lists common health behaviors affecting Corona adults, with benchmarks for comparison with state and national averages.

Table 6-4 Unhealthy Behaviors for Adults

	Prevalence Rates		
Percentage of Adults	**Corona**	**State**	**Nation**
• Obesity	26.3	24.8	28.7
• Excessive alcohol use in past month	16.8	15.6	16.8
• Lack of leisure exercise in past month	23.3	21.5	23.3
• Current smoking in past month	14.6	12.8	17.7
• Insufficient sleep (<7 hours/night)	36.5	33.8	35.1
• Consumes <5 servings of fruits & vegetables daily	75	71	75

Source: 500 Cities Project, CDC, 2014

Note: All prevalence rates for health outcomes are age-adjusted to account for differences in population age characteristics between cities, California, and the nation.

Figures 6-1 and 6-2 show health outcomes and behaviors for adults. Each census tract in Corona was ranked into quartiles based on indicators from the 500 Cities Project. Health outcomes and behaviors were ranked from the poorest (represented by dark blue) to the healthiest (light blue). Shown below, there is a strong correlation between health outcomes and behaviors, with tracts in southwest Corona showing the best (healthy) ranking and tracts along the SR-91 showing the least.

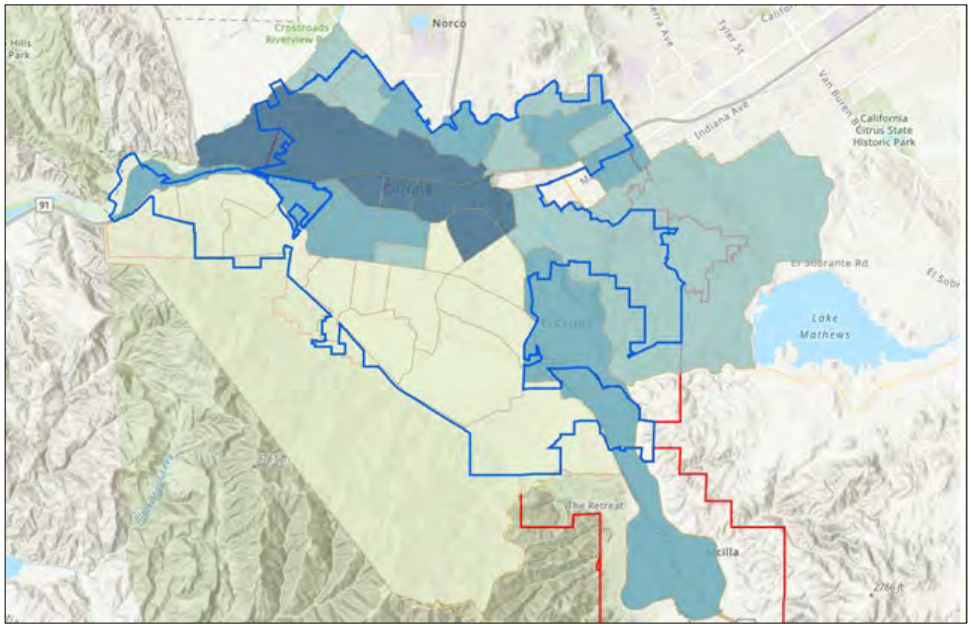


Figure 6-1 Health Outcomes for Adults by Census Tract

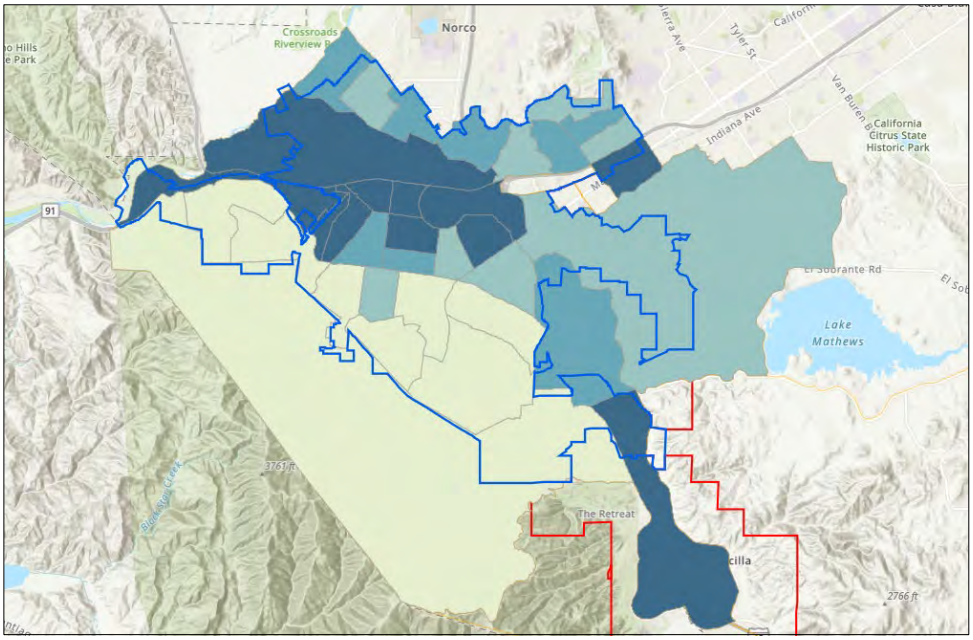


Figure 6-2 Health Behaviors for Adults By Census Tract

Access and Use of Health Care Services

Access to comprehensive and high quality health care services is important for promoting and maintaining health, preventing and managing disease, and reducing unnecessary disability and premature death. Ensuring adequate access depends on residents having health insurance and access to conveniently located services as well as residents choosing to utilize those services when needed.

Health Care Facilities

Corona has a wide range of health facilities, including hospitals, urgent care facilities, and community and specialty clinics. Corona also has long-term care facilities for people with disabilities and seniors. Facilities available to residents include:

- One primary hospital (Corona Regional Medical Center)
- Two community clinics (Centro Medico and Corona Life Services)
- Two specialty care clinics (for birth care and dialysis)
- Kaiser Permanente medical office facility
- Six urgent care facilities
- Specialty Veterans Affairs Loma Linda Healthcare System clinic
- Twelve intermediate care facilities
- Four ambulatory surgical centers
- Numerous private practices

Corona Regional Medical is pursuing facility expansion while Riverside Medical Clinic and other facilities are opening up new locations in or near Corona.



Corona Regional Medical Center, a 238-bed hospital, is the main hospital in Corona.

Health Professional Shortage

The availability of health care professionals within a reasonable distance of work or home can encourage people to seek appropriate care when needed. This is especially important for seniors or disabled people who may find it difficult to access services.

It is well documented that the Inland Empire region has long had a significant shortage of health professionals compared to other regions of California.[2] According to the California Health Care Foundation, Riverside County has an estimated 31 primary care physicians per 100,000 residents, which ranks the 50th lowest of 58 counties in California. The county also has 56 licensed specialists per 100,000 residents, ranking 42nd of 58 counties. While Corona has access to hospitals nearby and health care facilities in Orange County, the overall shortage of health care professionals in the county has been a longstanding concern.

According to the federal government, Corona has access to a greater number of health professionals than in Riverside County as a whole. Federal data show that there are no shortages for dental, mental health, or primary care for most areas in Corona.[3] The only exception is a shortage of primary care physicians in the Temescal Canyon area, south of Cajalco Road and east of the I-15. However, this tract is significantly larger than most, extending far inland toward rural areas near the I-215. In addition, Eastern Corona, south of the SR-91 and north of Cajalco Road, has a medically underserved population that extends westward to encompass the Circle in Corona.

In 2019, Riverside Medical Clinic opened a new health care facility on Retreat Parkway in Temescal Valley. The 100,000-square-foot facility will house 40 physicians, bringing primary and specialty health care services to this growing area. Planned services include internal medicine/family practice, cardiology, pulmonology, dermatology, endocrinology, gastroenterology, general surgery, neurology, OB/gyn, ophthalmology, optometry, orthopedic surgery, otolaryngology, audiology, pediatrics, plastic surgery, podiatry, rheumatology, urgent care/occupational medicine, and urology. This facility will replace the current facility in Corona on Magnolia Avenue.

Health Insurance

People with health insurance tend to have better health outcomes. Individuals with health insurance tend to have a place for regular medical care, are more likely to visit their doctor, are more likely to use health care services, and are less likely to use an emergency room due to delays in receiving care. With the Affordable Care Act, an increasing share of residents have health insurance. According to the 2010–2015 ACS, 85 percent of Corona residents are insured—similar to the county and California. A higher percentage of Corona youth and children (90 percent) also have health insurance, which is also comparable to county and state averages.

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[2] CHCF, California Maps: How Many Primary Care and Specialist Physicians Are in Your County?, Accessed at http://www.chcf.org/publications/2017/08/physicians-county-maps

[3] U.S. Department of Health and Human Services, Heath Resources and Services Administration, Data Warehouse, 2017. Accessed at: https://datawarehouse.hrsa.gov

As of 2016, the ACS reported a significant increase in the percentage of Corona residents with health insurance. Overall, more than 90 percent of residents now have health insurance. This increase in health insurance coverage is likely due to lower unemployment rates coupled with changes in the Affordable Care Act, which extended coverage to residents who previously did not qualify for subsidized coverage in California. With ongoing discussions at the state and federal government, the future of the ACA is uncertain and its potential impact on coverage.

Even under ACA, certain groups are less likely to be covered. In the 2010–2015 ACS, the lack of health insurance was greatest among low income households (25%), unemployed residents (39%), and non-citizens (43%). These findings are expected since most adults receive health insurance through their employer. These enrollment rates have likely improved over time with changes in the ACA. For residents who are uninsured or least able to afford medical care, Corona is also home to several lower cost and/or free clinics for income-qualified residents.

Access to Health Facilities

Access to health facilities is essential to ensure that people who cannot drive can still access medical services for themselves and their families. The major public transit providers in Corona include the Riverside County Transportation Commission, City of Corona Cruiser, and Dial-a-Ride services. Private businesses also provide limited transit service to different medical facilities or local destinations.

Transit services in Corona include the following:

- Dial-A-Ride. Dial-A-Ride service area extends beyond city limits to comply with the ADA and within a ¾-mile corridor from a Corona Cruiser fixed route. Door-to-door service is available upon request for riders certified under the ADA. About 65,000 trips are scheduled, the majority of which serve seniors/disabled people.
- Corona Cruiser. The Corona Cruiser provides fixed-route services on weekdays and weekends. The two lines both stop near the Corona Regional Medical Center. The Corona Cruiser serves numerous seniors and people with disabilities each year. The Corona Library and Senior Center are the most frequent destinations.
- RCTC Fixed Routes. RCTC provides fixed route service for the City of Corona and surrounding communities. Two of the routes (Route 1 and 3) are intended to stop adjacent to the Corona Regional Medical Center. Standard fares apply, although discounts are available for seniors and persons with disabilities.
- Private Shuttles. Corona Regional Medical Center offers transportation to its behavioral health facility for outpatient services. Other private and nonprofit providers may provide transit to hospitals, medical clinics, and other locations. Other private transit options such as Uber are available.

Additional information on transit services can be found in the "Circulation" section of Chapter 3, *Infrastructure, Public Services, and Facilities*.

Use of Health Services

Preventive health care is essential to staying healthy and avoiding costly medical expenditures. The right preventive care at every stage of life helps maintain health, avoid or delay the onset of disease, keep current diseases from becoming worse or debilitating, and reduce the cost of medical care. Despite the benefits of preventive health care, however, many people go without preventive care and then need treatment at a later stage for a more serious condition.

Corona residents use preventive health care services at the same rate as residents in the state of California. No information is available for the County of Riverside. Approximately 21 percent of Corona adults delayed or did not get prescriptions or medical care in the past year versus only 8 percent of children and youth. About two-thirds of all adults visited a doctor or dentist for an annual checkup. However, only one-quarter of senior men and women were up to date on core preventive services.

Regarding the use of preventive services, rates of utilization vary widely in Corona. For instance, the percentage of residents with health insurance can vary up to 350 percent, with tracts around the Circle showing that 40 percent of adults lack health insurance. Being up to date on senior preventive care can also range significantly, varying from 50 to 100 percent by tract. The percentage of adults having a routine dentist visit once a year can also vary by more than 100 percent among tracts.

Table 6-5, *Access to Preventive Care*, summarizes indicators of preventive health care access and utilization for Corona residents versus the county and state of California.

Table 6-5 Access to Preventive Health Care

Percentage of Adults and Youth	Prevalence Rate		
	Corona	County	State
• Lack of health insurance for adults (18–65)[1]	17.8	N/A	17.8
• Senior men up to date on core preventive services[1]	26.3	N/A	25.5
• Senior women up to date on core preventive services[1]	28.1	N/A	24.7
• Dental visit for adults – annual checkup[1]	65.2	N/A	64.9
• Doctor visit for adults – annual checkup[1]	66.8	N/A	66.3
• Delayed medical care – adults[2]	21.6	21.5	21.2
• Health insurance for children/youth[3]	92.1	91.4	93.6
• Delayed medical care – children/youth[2]	8.5	7.6	9.1

Sources:
1. 500 Cities Project, Local Data for Better Health, CDC, 2014
2. California Health Interview Survey, NE, 2014
3. American Community Survey, 2010–2015

Figures 6-3 and 6-4 show differences in the use of preventive services by census tract, with poorer outcomes shown by darker blues and better utilization by lighter blues. Tracts around the Circle area, industrial areas, and Eagle Valley show the least use of preventive care. Figure 6-4 shows health care shortages, with the green denoting medically underserved populations and the blue denoting a primary care shortage.

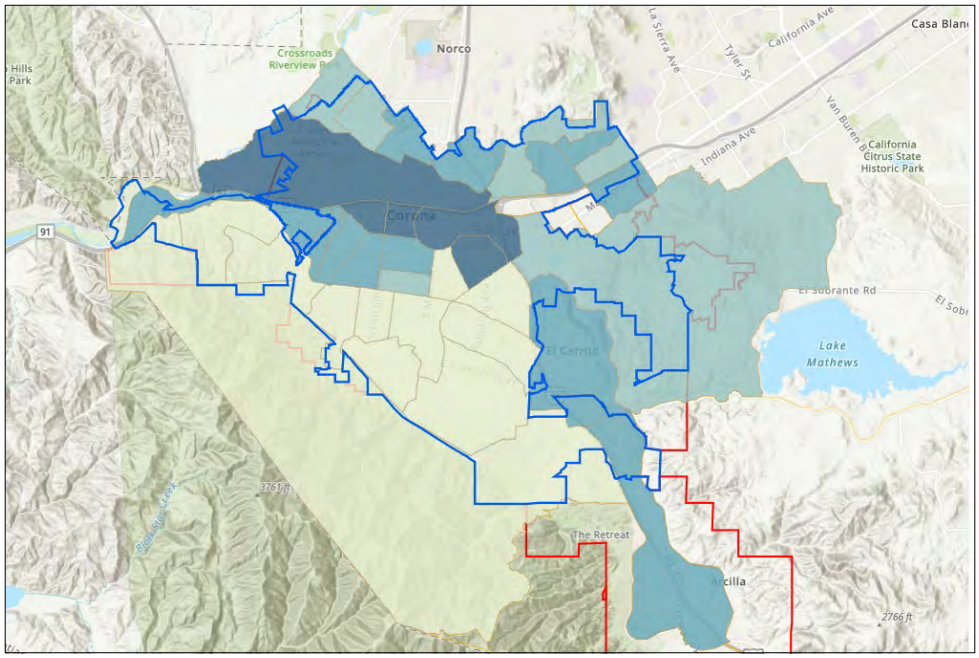


Figure 6-3 Use of Preventive Services by Census Tract

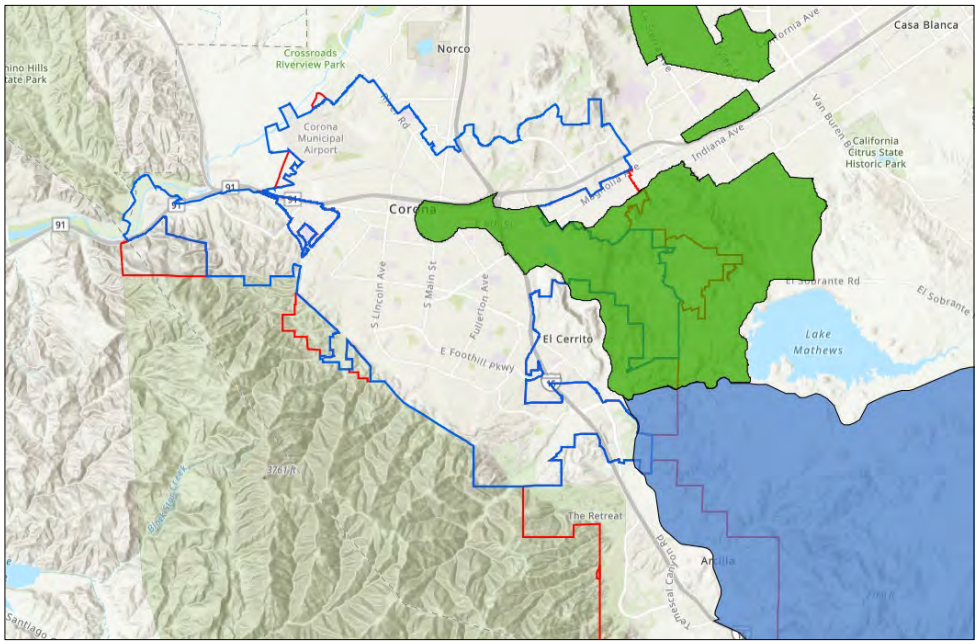


Figure 6-4 Primary Care Shortage and Medically Underserved

Built Environment

The built environment is known to affect the physical and mental health of residents. The built environment includes, among others, its safety, its retail food environment, parks and recreation amenities, and other physical features of the community.[4] The following section analyzes features of the built environment that influence the health and quality of life for residents in Corona.

Community Safety

Enjoying personal safety is also an important prerequisite for a healthy community. Residents should feel safe from violent and property crime in their neighborhood or commercial areas, at home, on the roadways, and even at school.

The Corona-Norco Unified School District is noted for efforts to promote safety. In 2017, CNUSD received national recognition from the School Safety Advocacy Council for its comprehensive safety plan measures.

Safety at School

A safe learning environment is essential for success at school. Safe schools allow children to focus on learning the skills needed for a successful education and future. When violence occurs at school, even to a small percentage of students, there is a good chance that every student will witness violent acts during their school years. While safety at school is addressed by the Corona-Norco Unified School District, the City does support efforts to improve and maintain a safe environment for students.

Almost three-quarter of students in the Corona-Norco USD perceive their schools are safe or very safe—significantly better than the county or state. While the Corona-Norco USD fares better than most schools, school safety remains a concern according to the Healthy Kids Survey. For instance, approximately one-third of high schoolers have been harassed or bullied, and approximately 10 percent are involved in a physical fight each year, although generally below state averages for the same grades.

The Corona-Norco USD has made it a priority to ensure a safe school environment.[5] A sample of current programs includes:

- School district policy. CNUSD has adopted a zero-tolerance policy on school bullying, which can be found at http://www.cnusd.k12.ca.us/Page/20835.
- Safety personnel. School resource officers and security attendants are assigned to each school to address a range of safety concerns.
- Suicide prevention and crisis intervention teams. CNUSD assigns trained staff to all schools to identify and assist students in need.
- School safety plan. CNUSD maintains a comprehensive school safety plan that complies with the California Education Code, Section 35294.2.
- Bicycle/pedestrian safety. The CNUSD has partnered with Corona PD, Riverside County Public Health Department, and others to publish a safety plan.

[4] Andrew L. Dannenberg and Richard J. Jackson, et. al. The Impact of Community Design and Land-Use Choices on Public Health: A Scientific Research Agenda}, American Journal of Public Health, Vol. 93, 2003.

[5] CNUSD's school safety plan can be accessed at: http://www.cnusd.k12.ca.us/flipbook/safetynet/

Safety from Crime

Safety from crime is known to build community trust, reduce individual stress, and encourage individuals to exercise, be active, and participate in community activities. Fortunately, Corona is one of the safest communities in Riverside County. In 2016, Corona's violent and property crime rates ranked the 3rd and 9th lowest, respectively, in Riverside County. Of particular note, the City's violent crime rate is 75 percent below the average for California, making the City known for its excellent public safety. Domestic violence calls are among the lowest in the County (8th lowest rate). Overall, Corona residents enjoy a safer community than other cities in the county.

Corona implements many programs to keep residents safe from harm and protect personal property. Beyond current crime suppression and prevention programs, a sample of additional programs includes:

The Corona PD is noted for its efforts to promote and achieve a high level of safety for Corona residents. Violent crime rates are 70 percent below the average for California, making it one of the safest cities with a population above 100,000.

- Continue to proactively prevent and suppress crime using all available resources, including the use of civilian personnel (Community Service Officers / Cadets / V.I.P.s) to help in suppressive and proactive measures.
- Enhance the City's Community Oriented-Community Based Policing approach through the implementation of efforts that target neighborhoods, schools, and others including through the Corona Police-Community Partnership.
- Maintain an emergency response time within five minutes to protect residents. The Department achieves and maintains this goal by ensuring appropriate staffing, facilities, deployment, and technology.
- Continue to focus on and strengthen programs that help to prevent crime, such as community outreach, neighborhood watch, and training and workshops with youth, families, and seniors among many others.

Safety on Roadways

Roadway safety is a key issue in Corona. Pedestrians and bicyclists will use roadways that are safe and user-friendly. Part of making roadways safer for travel relates to roadway design—whether it is safe and pleasant to drive, walk, and bicycle. Design characteristics include number of lanes; presence of sidewalks, trees, bicycle lanes, crosswalks, lighting; and overall condition. The other aspect of roadway safety relates to how the roadway is used—the type of traffic involved, adherence to speed limits, and other features related to use.

The City is Corona is known for its extensive transportation system and the sheer volume of vehicles traveling throughout the community. Due to the SR-91 and I-15, traffic volumes can be very high and concentrated near the freeways. Cut-through traffic is a concern—where vehicles cut through neighborhoods for shorter routes. Over four years (2014–2017), the City averages 31 bicycle accidents and 47 pedestrian accidents annually. Motor vehicle accidents average 1,800 annually. Reliable statistics are unavailable to determine how Corona ranks with its peer cities.

As in most communities, traffic accidents are concentrated in locations most frequented by vehicles, pedestrians, and bicycles, In Corona, the majority of bicycle and pedestrian collisions with vehicles occurred in the Circle Neighborhood. An additional

60-plus bicycle and pedestrian collisions were recorded in an area bordered by 10th Street on the south and the SR-91 to the north. Since an important goal of the general plan will be to improve the viability of the historic core, efforts will need to focus on improving the safety of walking and bicycling in this area.

Corona's programs to ensure safe public roadways are many and are addressed in more detail in later chapters. A sample of additional traffic safety programs includes:

» Traffic stop/checkpoints to reduce the number of intoxicated/medicated drivers on the road and reduce the risks of accidents

» Specialized bicycle and pedestrian enforcement units to ensure that laws are followed when using the street

» Focused enforcement of speed, stop sign, and red lights to prevent motorists from endangering residents and pedestrians

» Focus on seatbelt and child safety seat enforcement to reduce the threat and injury to children riding in vehicles.

» Distracted driver program (e.g. cell phones and other distractions) to prevent unnecessary accidents

Table 6-6, *Community Safety*, summarizes community safety indicators in Corona relative to available benchmarks in Riverside County and State of California.

Table 6-6 Community Safety Indicators

Safety Indicators	Comparison of Rates		
	Corona	County	State
Safe Community[1] (crimes per 100,000 people)			
• Violent Crime Rate	113	317	446
• Property Crime Rate	2,282	2,793	2,576
• Domestic Violence (calls per 1,000)	2.0	3.1	4.2
Safe Schools[2] (percentage of students)			
• 7th graders perceiving school as safe/very safe	77%	69%	N/A
• 9th graders perceiving school as safe/very safe	73%	62%	N/A
• 11th graders perceiving school as safe/very safe	71%	63%	N/A
Safe Roadways[3] (number of collisions)			
• Motor Vehicle Collisions (average annual collisions)	1,800	N/A	N/A
• Pedestrian Collisions (average annual collisions)	47	N/A	N/A
• Bicycle Collisions (average annual collisions)	31	N/A	N/A

Sources:
1. California Attorney General, 2016
2. California Healthy Kids Survey, 2015–2017 varied years
3. Crossroads Traffic Collision Database, 2014–2017

Alcohol Access and Use

Alcohol availability and misuse are a key priority for the Healthy Corona Initiative. Among Corona's youth, at least 27 percent of 11th graders have used alcohol in the past 30 days, and two-thirds of 11th graders and more than half of 9th graders report that obtaining alcohol is easy. Moreover, at least 16 percent of adults in Corona report excessive alcohol use in the past month. While alcohol use is legal in many social and restaurant settings, there is nonetheless a strong correlation between retail access, cost, social norms, advertising, and the use of alcohol.[6]

Studies have shown that a high concentration of liquor stores is associated with excessive drinking, vehicle accidents, crime, and other risks. Therefore, the state has established thresholds for regulating retail licenses. A moratorium is initiated when the ratio of on-sale licenses for beer, wine, and distilled spirits exceeds one per 2,000 residents or one general off-sale license for every 2,500 residents. A moratorium is also issued for off-sale beer and wine when the ratio of licenses exceeds one for 2,500 residents or one for 1,250 residents when combined with off-sale general licenses.

Corona has 258 businesses that are licensed to sell wine, beer, and spirits, which ranks midpoint (14th) in the county in licenses per capita. The vast majority of outlets are concentrated along major commercial corridors, including Sixth Street, North Main Street, and North McKinley. Corona as a whole does not exceed the moratorium thresholds noted above, though certain tracts may have a high concentration of retail businesses licensed to sell alcohol. These include industrial areas north of SR-91, the Circle and adjacent tracts, El Cerrito, and a few isolated tracts.

Corona implements a range of programs to regulate businesses that sell alcohol, educational programs to target social norms, enforcement of safety laws, and other programs to prevent misuse of alcohol. A sample of current programs includes:

- Drive sober campaign. Corona PD implements DUI checkpoints, educational campaigns, and other programs to keep and prevent intoxicated or medicated drivers from driving.
- Underage drinking. The City works to prevent minors from drinking through its social host ordinance and shoulder tap stings, which target adults who allow alcohol to be used in social settings or purchase alcohol for minors.
- Intoxication in public places. The City bans possession of open containers of alcoholic beverages and prohibits consumption of alcohol in public places. The City also requires vendors not sell alcohol to inebriated patrons.
- School programs. The CNUSD also has onsite programs to increase awareness of and prevent underage drinking, including programs such as Project Alert, parents education, and intervention programs for students.

[6] A General Causal Model to Guide Alcohol, Tobacco, and Illicit Drug Prevention: Assessing the Evidence, Pacific Institute for Research Evaluation, Journal of Drug Education, 2003.

Tobacco Access and Use

Healthy Corona is also prioritizing the use of tobacco as a community concern. Smoking, vaping, and tobacco use are linked to heart disease, lung cancer, chronic obstructive pulmonary disease, emphysema, asthma, and other chronic diseases. Moreover, the use of vaping and e-cigarettes among youth is increasing and a precursor to smoking. Tobacco use is also prevalent among Corona adults. If the City of Corona is to address the issues of tobacco use in the community, efforts will need to be directed at retail access, cost, social norms, and advertising.[7]

In 2015, the prevalence of tobacco use among Corona youth was about the same as youth statewide. The use of E-cigarettes, which was more than double the smoking rate, was also similar to county and state averages. Part of the reason for greater use of tobacco products among Corona youth is perceived access: school surveys indicate that up to 60 percent of high schoolers believe it is easy to obtain cigarettes. Availability could be due to the number of stores that sell products. Finally, social norms about the harm that could be caused by smoking affects tobacco use as well.

In 2016, the City of Corona had approximately 135 retailers licensed to sell tobacco products, not including additional larger distributors and wholesalers. Currently, Corona has the 14th highest rate of tobacco outlets in the county, with 8 retail tobacco licenses issued per 10,000 residents, slightly above the county average. However, state law does not regulate tobacco licensing in the same way as alcoholic beverage licensing. The state does not establish areas of overconcentration nor requires cities to approve new stores that exceed a "moratorium" threshold.

Corona received a policy grade of 'C' from the American Lung Association for its tobacco control efforts.[8] In Riverside County, only Temecula, Murrieta, and Hemet received a higher grade of 'B'. A sample of Corona programs includes:

- Smoking in public places. The City enforces a ban on smoking, use of any tobacco products, or any electronic smoking device within the boundaries of any public park or recreation area within the city.
- Tobacco Availability. The City requires a minor conditional use permit for the issuance of permits to sell smoking or tobacco products, including e-cigarettes. The license also restricts advertising and placement of tobacco products.
- School Education. As part of California tobacco-use prevention education grants, the CNUSD reached more than 15,000 students through various educational efforts, including Projects Alert, Project TND, and Project TNT.
- Tobacco Cessation. In Corona, various private organizations (e.g., Corona Regional Medical Center and other healthcare providers) and nonprofit agencies offer tobacco cessation programs.

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[7] A General Causal Model to Guide Alcohol, Tobacco, and Illicit Drug Prevention: Assessing the Evidence, Pacific Institute for Research Evaluation, Journal of Drug Education, 2003.

[8] American Lung Association. State of Tobacco Control: California Local Grades, 2017. Accessed at: http://center4tobaccopolicy.org/tobacco-money-politics/tobacco-policy-grades/

Food and Nutrition

The obesity crisis affecting cities underscores the importance food and nutrition. Having healthy food available and affordable in food retail settings (e.g., grocers) and service settings (e.g., restaurants) allow people to make healthier food choices. When healthy foods are not available, when insufficient time is available to purchase and prepare food, or when it is unaffordable to make healthy choices, people may settle for foods higher in calories and lower in nutritional value. Because food directly affects nutrition and weight, a healthy food environment is a prerequisite for a healthy city.[9]

In 2017, Corona had 28 larger chain grocery stores, including several ethnic grocers. Additional healthy food outlets include 8 fruit and vegetable markets, 2 community gardens, and smaller ethnic markets. Taken together, Corona has an average of 1.7 larger chain grocery stores per 10,000 residents—the third highest ratio of the 28 cities in Riverside County. With respect to affordability, more than 90 percent accept Women, Infants, and Children (WIC) coupons for food. In addition, more than 100 grocers citywide accept Cal-Fresh vouchers for food.

Grocery stores are distributed throughout the City, with stores located within one mile of many residential areas. However, there are notable exceptions. The western flank of the city is not generally served by a grocery store within a one mile radius. The northwest portion of Corona near Eastvale also lacks a nearby full-service grocery store. Reduced access is due in part to land use zoning, but also reflect the need for grocery stores to locate near more densely populated areas. Temescal Valley in the SOI is also largely absent a full-service grocery store, except on the southernmost tip, but this due to County land use and zoning in this area.

Corona implements programs to provide greater opportunity for healthier eating and nutrition for its residents and meet the needs of lower income students and seniors. A sample of current programs includes:

- Meals at schools. The Corona-Norco Unified School District offers low cost or free meals for children of parents that earn below a certain annual income, thus improving the nutrition of school children.
- Senior nutrition. The Senior Center provides low cost meals and nutritional counseling for Corona seniors. Meals-on-Wheels also delivers food to homebound seniors/disabled residents.
- Access to healthy food. The City continues to make efforts to expand food access through farmers markets, community gardens, recreational classes, and a wide variety of other programs.
- Food vouchers. More than 100 retailers accept Cal-Fresh, formerly known as food stamps. All major stores also accept WIC vouchers. The City is also working to allow EBT cards at its farmers market.

[9] Center for Diseases Control and Prevention, Healthy Places: Healthy Food Environment. Accessed at: https://www.cdc.gov/healthyplaces/healthtopics/healthyfood_environment.htm

Figures 6-5 and 6-6 show the locations of alcohol and tobacco retail outlets. Many of these stores are licensed to sell both products. Figure 6-6 shows the distribution of grocery stores, with a one-mile buffer of each outlet, throughout Corona.

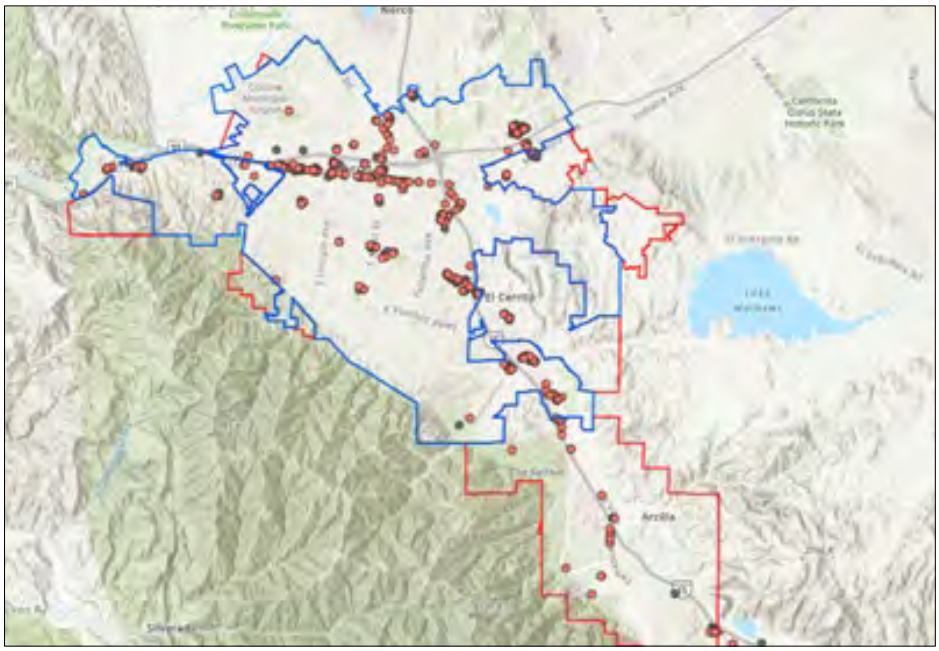


Figure 6-5 Stores Licensed to Sell Tobacco or Alcohol

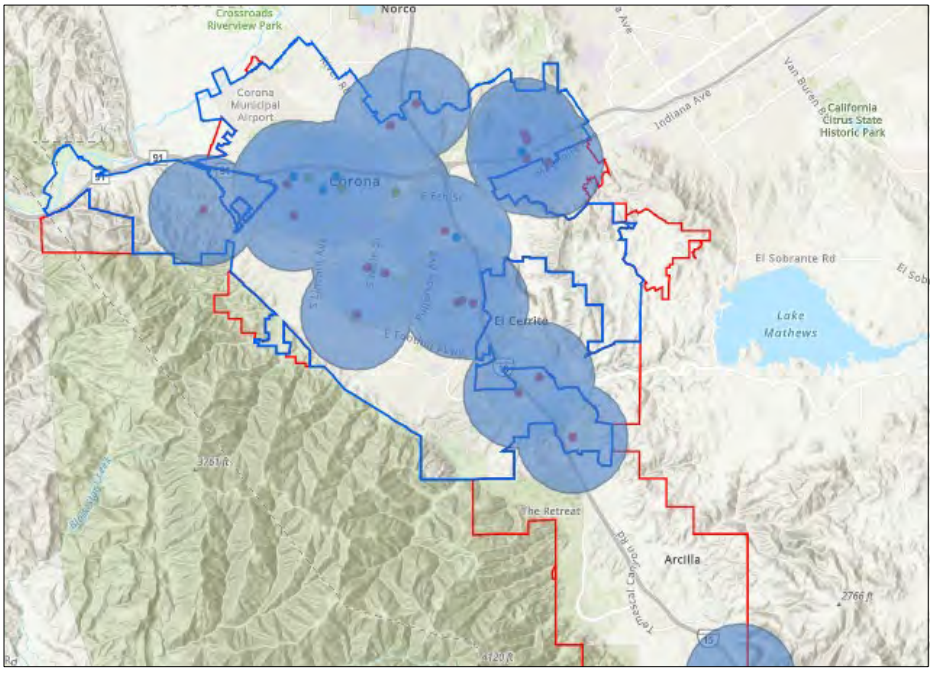


Figure 6-6 Grocery Stores in Corona and one mile buffer

Park and Recreation Facilities

Convenient access to a park or recreational facility is known to increase the chances of residents being physically active. Corona has 36 public parks (not including its SOI) that provide 330 acres of parkland. As discussed in Chapter 3, of this report, the City's parkland includes: mini parks, neighborhood parks, community parks, major (regional) parks, open spaces, and recreational facilities. This does not include golf courses, private parks, natural areas, or parks within the SOI.

At a population of 167,000, the City of Corona offers 2.0 acres of parkland per 1,000 residents. This is below the Quimby standard of 3.0 acres of parkland per 1,000 residents. If private golf courses and natural open space areas (e.g., Fresno Canyon) were included in the per acreage calculation, the City would show a greater number of acres per 1,000 residents. Given the built-out nature of the community, closing this deficit will be challenging.

Another important aspect of park availability is convenient access to a park facility. The following graphic shows the distance from each neighborhood, community, or major park by two criteria: 1) a 15-minute walk or about ¾ of a mile (dark brown color); and 2) a five-minute drive (represented by the light brown color). Parks are clearly accessible by vehicle, but to a lesser degree by walking. The main areas of need are the periphery of Corona and several areas nearer to the SR-91 and I-15.

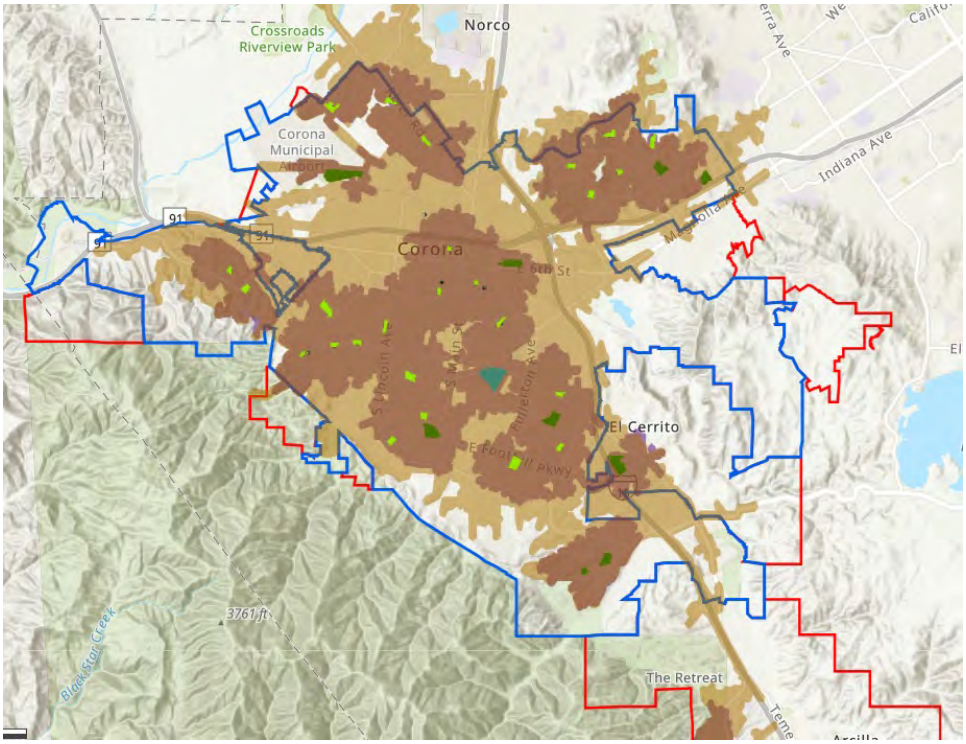


Figure 6-7 Park Accessibility: 15-minute walk or 5-minute drive

Improving walking and bicycling facilities can improve their desirability for short distance trips, school trips, and recreational activities, while also enhancing the City's urban environment. By shifting mode share to include higher rates of active travel, the City can reduce greenhouse gas emissions and promote a healthy lifestyle. The City's Bicycle Master Plan (2006) calls for bicycle lanes on various streets in order to increase emphasis on active transportation. Currently, the City has 70 miles of bicycle lanes with an additional 92 miles planned to build out the bicycle network.



Table 6-7, *Built Environment Indicators,* summarizes various indicators of the built environment that contribute to healthier lifestyles.

Table 6-7 Built Environment Indicators

Built Environment Indicators	Number in Corona	# per capita (in Corona)	County Benchmark	Corona Ranking
• Retail Alcohol Licenses	258 stores	16/10,000	14/10,000	15th
• Tobacco Retailers	134 stores	8/10,000	7/10,000	14th
• Full Service-Grocers	28 stores	1.7/10,000	1.0/10,000	3rd
• Park and Recreation	330 acres	2.0/1,000	Not available	
• Bicycle Network	70 miles	4.2/10,000	Not available	

Sources: Varied state and local sources.

Notes: Grocery stores do not include fruit and vegetable markets, farmers markets, community gardens, pharmacies, and specialty food stores. Park acreage excludes unimproved natural open space areas and golf courses.

6.3 ENVIRONMENTAL JUSTICE

This section describes the regulatory framework for environmental justice, disadvantaged communities according to CalEPA criteria, and various issues and opportunities for consideration in the Corona General Plan.

6.3.1 Regulatory Framework

Environmental justice concerns in California are addressed primarily through state law and local general plans and municipal codes, to the extent such practices are codified. Key state and local regulations follow.

Senate Bill 115

California was of the first states to address environmental justice through SB 115. In 1999, SB 115 led to defining environmental justice in statute and establishing the Governor's Office of Planning and Research (OPR) as the coordinating agency for environmental justice programs, and requiring the California Environmental Protection Agency (Cal/EPA) to develop a model environmental justice mission statement for boards, departments, and offices within the agency. SB 89, signed the next year in 2000, required the creation of an environmental justice working group and an advisory group to assist CalEPA in developing an environmental justice strategy. AB 1553, which took effect in 2003, required OPR to develop guidelines for jurisdictions to address environmental justice in general plans. These guidelines focused on siting decisions for land uses, but not broader equity considerations.

Environmental Justice

Environmental justice is defined as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."

California Government Code Section 65040.12(e)

Greenhouse Gas Reduction Fund (SB 535)

SB 535 requires CalEPA to identify disadvantaged communities for investment opportunities based on geographic, socioeconomic, public health, and environmental hazard criteria. Such communities may include, but are not limited to:

- Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.
- Areas with concentrations of people that are low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

Subsequent to adoption of SB 535, CalEPA worked with the Office of Environmental Health Hazard Assessment, to develop CalEnviroScreen (CES). CES ranks the communities in California by pollution burden. The tool ranks each of the state's 8,000 census tracts using data on 20 indicators of pollution, environmental quality, and socioeconomic and public health conditions. CES has been updated three times, most recently in January 2017.[10]

[10] https://oehha.ca.gov/media/downloads/calenviroscreen/fact-sheet/ces30factsheetfinal.pdf

Senate Bill 1000

Senate Bill 1000 (SB 1000), the Planning for Healthy Communities Act, was signed into law on September 24, 2016. SB 1000 mandates that cities and counties adopt an environmental justice (EJ) element or integrate environmental justice policies, objectives, and goals into other elements in their general plans after January 1, 2018, when two or more general plan elements are being updated.

The EJ element—or EJ goals, policies, and objectives in other elements—is required to do all of the following:

» Identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities.

» Identify objectives and policies to promote civil engagement in the public decision-making process.

» Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.

OPR's General Plan Guidelines is intended to provide guidance on implementation.

General Plan Guidelines

Government Code §§ 605040.12 et. seq. require the Office of Planning and Research (OPR) to provide guidance for local jurisdictions to address environmental justice. OPR's recent revision of the General Plan Guidelines (2017) includes a chapter on environmental justice that addresses equity and social justice concerns as well. As required by statute, the general plan must do the following:

» Contain objectives and policies to reduce unique or compounded health risks in disadvantaged communities by means that include but are not limited to:
  - Reducing pollution exposure
  - Improving air quality
  - Promoting public facilities
  - Promoting food access
  - Promoting safe and sanitary homes
  - Promoting physical activity

» Identify objectives and policies to promote civil engagement in the public decision making process.

» Prioritize improvements and programs that address the needs of disadvantaged communities.

Due to SB 1000's effective date of 2018, OPR's General Plan Guidelines (2017) do not provide specific guidance for implementing SB 1000. OPR has committed to providing guidance in later revisions of its general plan guidelines.

6.3.2 Existing Conditions

This section covers the methodology used for the environmental justice analysis, identifies each of the disadvantaged communities in Corona and the sphere of influence communities, and provides an explanation of the findings.

CalEnviroScreen

The California Communities Environmental Health Screening Tool, or CalEnviroScreen (CES) was developed by the Office of Environmental Health Hazards Assessment on behalf of CalEPA. CES is a screening method for identifying communities that are disproportionately burdened by pollution and/or that have a disproportionately more vulnerable population. Once these disadvantaged communities are identified, local governments can better understand their needs and target resources appropriately to improve conditions and outcomes in those communities.

CalEnviroScreen is a state methodology, mapping tool, and program that helps identify communities that are disproportionately burdened by multiple sources of pollution and/or in which a high concentration of people is more sensitive to the effects of pollution.

CalEnviroScreen produces "scores" for each census tract that can be used to identify environmental conditions in communities. The scores for tracts are based on 18 indicators organized across four categories: pollution exposure, environmental effects, sensitive populations, and socioeconomic factors. These categories are summed into two primary metrics—Pollution Burden and Population Characteristics—which are then multiplied together to arrive at the final CalEnviroScreen score for each tract. Figure 6-8, *Overview of CalEnviroScreen Methodology,* presents the basic model.[11]

In accordance with SB 1000, jurisdictions are required to use this tool to help identify areas within their communities where environmental justice concerns may arise. Goals, policies, and programs can then be developed to address concerns.

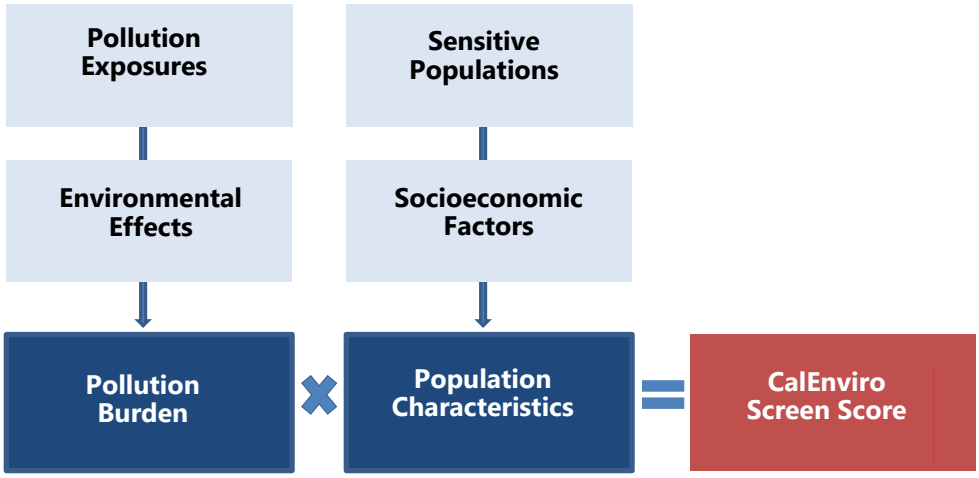


Figure 6-8 Overview of CalEnviroScreen Methodology

[11] CalEnviroScreen is accessible online at https://oehha.maps.arcgis.com/apps/webappviewer/index.html?id=4560cfbce7c745c299b2d0cbb07044f5.

Methodology for Assessing EJ Concerns

The core purpose of CES is to identify disadvantaged communities. SB 1000 defines a disadvantaged community (DAC) consistent with the Health and Safety Code § 39711. This includes areas that are: 1) disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; and 2) with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

SB 1000 mandates the use of CES, but it does not recommend a specific measure or threshold for a disadvantaged community. To provide more thorough analysis, this report identifies DACs as census tracts that meet any one of three criteria:

» CES Composite Score. The first method is to align the definition of a DAC with that used by SB 535 in determining jurisdictions eligible for funding under the cap-and-trade program. Under this program, CalEPA classifies any tract with a CES score above the 75th percentile of scores statewide as disadvantaged.[12] Therefore, the first criteria for a DAC is any census tracts that exceeds the 75th percentile of scores statewide for its CES composite score.

» Population Characteristics Score Only. The next method option is to assess population characteristics alone, whereby census tracts scoring in the top 75th percentile would be considered DACs. This approach is useful for identifying communities with vulnerable populations, but has limitations because it does not consider pollution and exposure to it. However, this might be a key factor to consider when evaluating land use decisions affecting an impacted community.

» Pollution Burden Score Only. In some cases, the CES composite score may not exceed the 75th percentile threshold due to minimal population risk factors, but its residents are still potentially exposed to environmental pollutants. Therefore, an alternative is to assess census tracts on the pollution burden score alone. This approach is useful for communities that may not have many vulnerable population characteristics and yet are still subject to high (disproportionate) burdens of environmental pollution that may present health concerns.

Within these three options, this assessment also screens tracts for those that are low-income and disproportionately affected by environmental pollution. "Low income" can be defined based on the statewide or area median income. To allow for flexibility in definitions, the California Air Resources Board provides a useful map that takes into account both methods for the purposes of AB 1550.[13] This map allows one more layer to consider in understanding disadvantaged communities that may exist in Corona.

[12] CalEPA's methodology for designating disadvantaged communities can be found online at https://calepa.ca.gov/wp-content/uploads/sites/34/2017/04/SB-535-Designation-Final.pdf.

[13] CARB's methodology for identifying low income communities is described in detail at: www.arb.ca.gov/cc/capandtrade/auctionproceeds/kml/ab1550_maps_documentation.pdf. Final maps are accessible at: www.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm.

Methodology for Addressing Social Equity

A corollary concept that underpins the field of environmental justice is social equity. Although the field of environmental justice originally focused on the disproportionate burden of pollution, the goals of environmental justice have expanded over time. Today, environmental justice has become a broader policy platform to address not only pollution, but also access to parks and recreation services, healthy food, affordable housing, public facilities, and full participation and representation in municipal affairs.

Of note, SB 1000 does not use the term "social equity." However, OPR guidelines strongly suggest that the concepts of social equity and environmental justice are intertwined. The concept of social equity is not new to planning and is embedded in decision-making covering the fields of transportation, housing, agriculture, energy, economic development, land use, health, and education. Equity is also one of three key pillars in the field of sustainable development and has been recognized by the APA in its official policy on smart growth. Still, the term remains undefined.

According to the National Academy of Public Administration, social equity is the fair, just, and equitable management of all institutions serving the public directly or by contract; the fair, just and equitable distribution of public services and implementation of public policy; and the commitment to promote fairness, justice, and equity in the formation of public policy. The American Planning Association states that social equity refers to expanding opportunities for betterment that are available to communities most in need, creating more choices for those who have few.

Although social equity definitions remain unclear, reducing inequity is a common goal in public policy. Inequity has multiple dimensions: geographic, institutional, and socioeconomic, to name a few. Geographic inequities could occur where the burdens of undesirable land use or costs are concentrated in certain neighborhoods while the benefits are received elsewhere. Institutional inequities could occur when laws are enforced unequally, or some individuals have unfair access to influence and shape public policy. Socioeconomic inequities may exist when different groups have different outcomes that are the result of policies that have a disparate impact.

CalEnviroScreen is not intended to measure social inequity, but it does provide indicators of population characteristics that suggest topics for further inquiry. SB 1000 also directs local governments to address a range of policy areas that represent concerns with social equity—access to safe and sanitary housing, healthy food, places for recreation, and public facilities and services, among others. Information on the existing setting behind these issues is addressed in other databases.

The analysis of social equity concerns is based on a wide variety of sources. These include USDA's food desert mapper, school surveys, data on health care providers from the federal government, municipal service reviews prepared by LAFCO, statewide health surveys, and other informational sources as deemed appropriate.

> Environmental justice (EJ) is considered an equity issue. It is an integral component of equity, but social equity also encompasses a larger framework such as access to jobs and economic opportunity, arts and culture, safety from violence, public administration, management of goods and services, access to education, and complete neighborhoods. …. Equity can be used as the larger framework for ensuring opportunities for all in the community.
>
> OPR General Plan Guidelines

An Overview of Corona and Its Sphere of Influence

Corona's planning area (which includes its sphere of influence) encompasses 39 census tracts, totaling a population of 206,000 within the broader planning areas. To frame this assessment, the City is grouped into six areas based on proximity, demographic makeup, and similarity of issues (see Figure 6-8). Table 6-8 provides an overview of each subarea as introduction to the detailed analysis that follows.

Table 6-8 CalEnviroScreen Overview by Corona Subarea

	Characteristics		Average CES Scores (percentiles)		
Census Tracts	**No. of Tracts**	**Percent of Population**	**Composite Score**	**Pollution Burden**	**Population Factors**
North Corona	9	18%	58	77	41
SR-91 Corridor	9	20%	80	90	61
Central Corona	8	18%	56	64	46
Southwest	7	21%	29	42	25
Temescal Valley	4	13%	50	77	33
I-15 East	3	10%	67	87	44

Source: CalEnviroScreen, Version 3.0, 2017

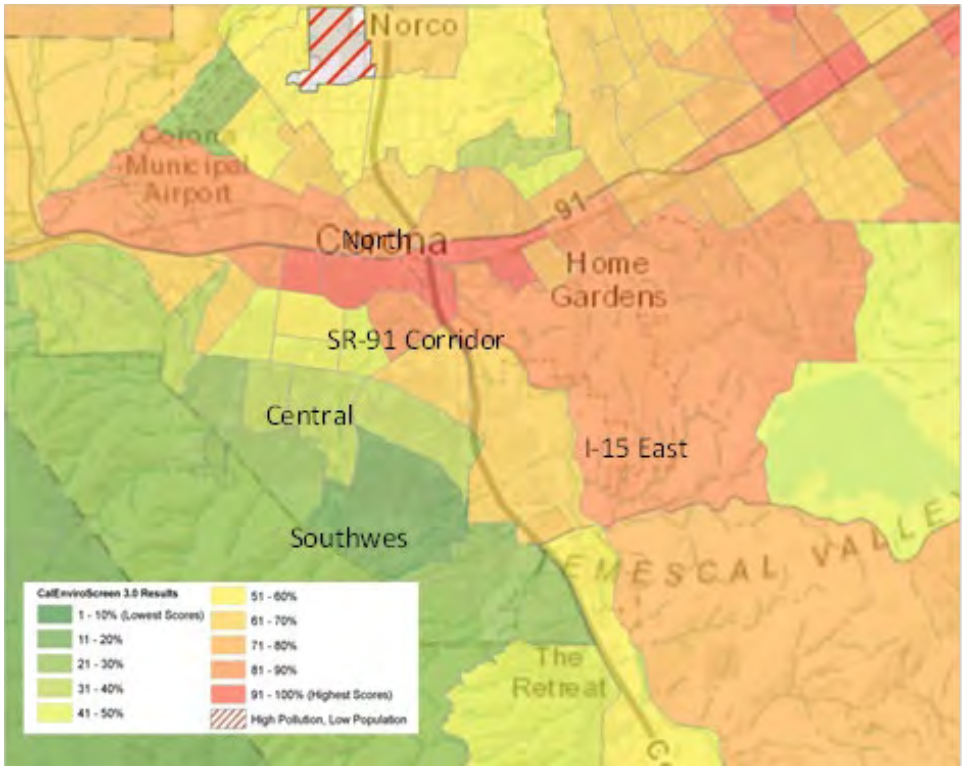


Figure 6-9 CalEnviroScreen Composite Score by Subareas

North Corona

North Corona includes nine tracts that are adjacent or north of SR-91. This area includes the Corona Ranch and Corona Hills neighborhoods on the east side of I-15 and Stagecoach, Auburndale/River, Parkside Green, and River Run to the west of I-15. The population is 37,700 residents or 18 percent of the planning area. Tracts are ranked into four quartiles for analysis, from best to worst (1 to 4).

According to CalEnviroScreen, none of the tracts in north Corona is defined as disadvantaged based on the CES composite score exceeding the 75th (4th quartile) percentile. Most tracts score in either the 2nd or 3rd quartile. However, four census tracts exceed the 75th percentile for pollution burden, and the remainder score in the 3rd quartile. No tracts are disadvantaged for population factors. All tracts are middle to upper income. Results are summarized in Table 6-9, *Northern Corona: CES Scores*.

For the pollution-burdened tracts, the primary concerns are:

» Air pollution, due to its location along the SR-91 and I-15 and the emissions from trucks, automobiles, and other mobile sources.

» Drinking water quality, measured by the number of contaminants. All of the tracts score in the 3rd or 4th quartile due to water contaminants. It should be noted that all drinking water meets all state and federal water quality standards.

» Toxic releases from industrial uses. Industries are required to report their air emissions from their facilities and meet applicable state and federal standards to ensure that the public's health and safety is protected.

» Traffic density due to volume of vehicles that access SR-91 and frequent the many commercial uses along major corridors adjacent to SR-91.

Table 6-9 Northern Corona: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 40806 (Stagecoach)	2	3	1	No
• 40807 (Auburndale)	3	3	2	No
• 40808 (Auburndale)	3	3	3	No
• 40809 (River Run)	3	4	2	No
• 40814 (Corona Hills/Ranch)	2	3	2	No
• 40815 (Corona Hills/Ranch)	3	4	3	No
• 40816 (Corona Hills/Ranch)	2	3	1	No
• 40821 (Corona Hills/Ranch)	3	4	3	No
• 48200 (Corona Hills/Ranch)	3	4	3	No

Source: CalEnviroScreen, 2017.

SR-91 Corridor

The SR-91 corridor encompasses nine census tracts adjacent to the freeway. This area includes the neighborhoods of Coronita, Home Gardens, Airport, Industrial area, Circle neighborhood, Home Gardens, and other census tracts along the SR-91. The population of this area is 40,000 or 20 percent of the planning area. This area is generally the lowest income area of the City, with multiple low income tracts. Tracts are ranked into four quartiles for analysis, from best to worst (1 to 4).

Except for Coronita and Sierra del Oro, all tracts along the SR-91 are considered disadvantaged based on the CES Composite score, and all tracts, regardless of location along the SR-91, are disadvantaged with respect to pollution burden. While only two tracts are disadvantaged due to population characteristics, the other tracts score in the 3rd quartile, except for Coronita and Sierra del Oro. Seven of the nine tracts are considered low income tracts. Results are summarized in Table 6-10.

For the pollution-burdened tracts, the primary concerns are:

» Air pollution (ozone and $PM_{2.5}$). Corona is affected by air pollution due to its location at the intersection of the SR-91 and I-15, resulting in air emissions from trucks and other vehicles, and the flow of air pollutants inland.

» Drinking water quality, measured by the number of contaminants. All of the tracts score in the 3rd or 4th quartile due to water contaminants. It should be noted that all drinking water meets all state and federal water quality standards.

» Toxic air releases from industrial uses. The rankings are due predominantly to mining operations along the I-15 (which produce high levels of particulate matter and other pollutants) and larger industries along the SR-91.

Table 6-10 SR-91 Corridor: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 41410 (Home Gardens)	4	4	4	Yes
• 41411 (Home Gardens)	4	4	3	Yes
• 41412 (Home Gardens)	4	4	3	Yes
• 41500 (Airport)	4	4	3	Yes
• 41600 (Circle Area)	4	4	3	Yes
• 41703 (West of Circle)	4	4	3	Yes
• 41704 (West of Circle)	4	4	4	Yes
• 41904 (Coronita)	3	4	2	No
• 41912 (Sierra Del Oro))	2	4	1	No

Source: CalEnviroScreen, 2017.

Central Corona

Central Corona covers an area that extends from Coronita eastward to the I-15. It includes eight census tracts which comprise, generally, the neighborhoods of Cottonwood Court, Citron/Belle, Corona Grove, Corona Border, Corona foothills, Ridgemont, and other neighborhoods north of Ontario Boulevard. The population of this area is 38,000 residents or 18 percent of the planning area population. Central tracts are ranked into four quartiles for analysis, from best to worst (1 to 4).

According to CalEnviroScreen, only one tract in Central Corona is considered disadvantaged based on its composite score; the other seven tracts rank in either the 2nd or 3rd quartiles. Two tracts are considered disadvantaged for pollution burden, but the remaining tracts score in either the 2nd or 3rd quartiles. No tracts are low income tracts; all are either middle or upper income tracts. No tracts are considered disadvantaged for population characteristics. Results are summarized in Table 6-11.

For the pollution-burdened tracts, the primary concerns are:

» Air pollution (ozone and $PM_{2.5}$). Corona is affected by air pollution due to its location at the intersection of the SR-91 and I-15, resulting in air emissions from trucks and other vehicles, and the flow of air pollutants inland.

» Drinking water quality, measured by the number of contaminants. All of the tracts score in the 3rd or 4th quartile due to water contaminants. It should be noted that all drinking water meets all state and federal water quality standards.

» Toxic air releases from industrial uses. The rankings are due predominantly to mining operations along the I-15 (which are responsible for high levels of particulate matter and other pollutants) and larger industries along the SR-91.

Table 6-11 Central Corona: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 417.02	3	3	2	No
• 418.05	2	2	2	No
• 418.07	2	3	2	No
• 418.09	3	4	2	No
• 418.12	2	3	2	No
• 418.13	4	4	3	No
• 419.05	2	2	2	No
• 419.06	3	3	3	No

Source: CalEnviroScreen, 2017.

Southwest Corona

Southwest Corona is south of Ontario Boulevard, on the west side of the I-15 southward, and south to Temescal Valley. It covers seven middle to upper income census tracts.. There are many neighborhoods of varying sizes within this area. Some of the larger ones are Pepper Corner, Upper Drive, Mountain Gate, Eagles Nest, and Eagle Glen. Southwest Corona has 44,000 residents, or 21 percent of the population of the planning area.

According to CalEnviroScreen, Southwest Corona shows by far the fewest environmental hazards. No tracts are disadvantaged with respect to the CES composite score, pollution burden, or population characteristics. All of the tracts are also middle to upper household income tracts. The lack of disadvantaged tracts is due to the newer developments in this area and that much of the area is removed from industrial or commercial land uses that could present environmental concerns.

Although none of the tracts is pollution burdened, there are three primary sources of pollutants that affect southwest Corona.

» Air pollution (ozone and $PM_{2.5}$). Corona is affected by air pollution due to its location at the intersection of the SR-91 and I-15, resulting in air emissions from trucks and other vehicles, and the flow of air pollutants inland.

» Drinking water quality, measured by the number of contaminants. All of the tracts score in the 3rd or 4th quartile due to water contaminants. It should be noted that all drinking water meets all state and federal water quality standards.

» Toxic air releases from industrial uses. The rankings are due predominantly to mining operations along the I-15 (which are responsible for high levels of particulate matter and other pollutants) and larger industries along the SR-91.

Table 6-12 Southwest Corona: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 418.03	2	2	2	No
• 418.04	2	2	2	No
• 418.06	2	2	2	No
• 418.08	2	2	2	No
• 418.10	2	3	1	No
• 419.13	2	2	2	No
• 479.00	1	2	1	No

Source: CalEnviroScreen, 2017.

Temescal Valley

Temescal Valley is an unincorporated portion of Corona that is located along both sides of the I-15, generally extending south of Cajalco Road. Temescal Valley has four census tracts that include the Retreat, Wildrose, Montecito Ranch, Trilogy, Glen Ivy Hot Springs, Painted Hills, Spanish Hills, and Sycamore Creek neighborhoods, among others. It also covers the Dos Lagos area and foothills east of the I-15. The population of this area is 27,000 residents or 13 percent of the planning area.

Only one tract in Temescal Valley is considered disadvantaged, although this tract extends far inland from Corona to the communities in Mead Valley. The other three tracts rank in the 1st, 2nd, and 3rd quartiles. With respect to pollution burden, however, three of the tracts would have a high enough ranking to be considered disadvantaged for pollution burden alone. However, as shown in Table 6-13, no tracts are disadvantaged for population characteristics.

As mentioned above, all of the census tracts rank in the 3rd or 4th quartiles for pollution burden. For the pollution-burdened tracts, the primary concerns are:

- Air pollution (ozone and $PM_{2.5}$). Corona is affected by air pollution due to its location at the intersection of the SR-91 and I-15, resulting in air emissions from trucks and other vehicles, and the flow of air pollutants inland.
- Drinking water quality, measured by the number of contaminants. All of the tracts score in the 3rd or 4th quartile due to water contaminants. It should be noted that all drinking water meets all state and federal water quality standards.
- Toxic air releases from industrial uses. The rankings are due predominantly to mining operations along the I-15 (which are responsible for high levels of particulate matter and other pollutants) and larger industries along the SR-91.

Table 6-13 Temescal Valley: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 419.10	3	4	2	No
• 419.11	2	4	2	No
• 420.07	4	4	3	No
• 481.00	1	3	1	No

Source: CalEnviroScreen, 2017.

Note: Census tract 420.07 extends far eastward from Corona to the Gavilan Plateau and southward along the I-15 to Lake Elsinore. Its CES scores are likely skewed for areas outside the City's SOI. Census tract 419.11 also extends outside the City's sphere, potentially skewing the results.

I-15 East Corridor

The I-15 Corridor includes several tracts along the City's eastern border and SOI, which comprise El Cerrito and Eagle Valley. Both tracts total about 20,000 residents, or 10 percent of the City's population. The terrain is very steep and extends eastward to the plateaus overlooking Corona. El Cerrito is developed in many areas, while the Eagle Valley area is less developed. These areas were combined due to the topography and common industries in the area.

With respect to the CES composite score, one tract is considered disadvantaged while the other census tract scores in the 3rd quartile. Due to the freeway, heavy industries (mining), and other industrial uses, however, both census tracts are considered disadvantaged for pollution burden. Finally, neither tract is disadvantaged due to population characteristics, nor do they qualify as a disadvantaged low income community. Results are summarized in Table 6-14.

For the pollution-burdened tracts, the primary concerns are:

» Air pollution (ozone and $PM_{2.5}$). All of the tracts have high levels of ozone and $PM_{2.5}$ due to location near I-15 and the topography of the area.

» Drinking water quality, measured by the number of contaminants. All of the tracts score in the 4th quartile for drinking water quality. It should be noted that all drinking water meets all state and federal water quality standards.

» Toxic releases from industrial uses. This area is located near heavy industry, in particular long-standing mining operations. This area also has unique issues, including cleanup sites, solid waste (landfill) sites, and other pollution concerns.

It is important to note that the I-15 corridor is largely under the jurisdiction of Riverside County. Existing mining operations, historical industrial land uses, and other issues affecting the environment are not under the jurisdiction of the City of Corona.

Table 6-14 Temescal Valley: CES Scores

Census Tracts	Ranking of CES Scores by Quartile			
	Composite Score	Pollution Burden	Population Factors	Low Income
• 414.09	4	4	3	No
• 419.09	3	4	2	No
• 419.10	3	4	2	No

Source: CalEnviroScreen, 2017.

Note: Census tract 414.09 extends far eastward from Corona to the Lake Matthews area to the ridge above El Cerrito. Its CES scores are likely skewed for areas outside the City's SOI.
Census tract 419.09 also extends outside the City's sphere, potentially skewing the results.

6.4 IMPLICATIONS FOR THE GENERAL PLAN

Over the past decade, the topic of healthy communities has gained traction in the field of urban planning due to rising chronic disease rates, broader movements in the public health field, and the realization that quality of life is affected by one's health. California law does not mandate that general plans include a healthy community element; however, SB 1000 does require the inclusion of environmental justice goals, policies, and programs. Therefore, cities have increasingly chosen to include health and wellness as an elective element of a general plan.

Chapter 6 of the TBR, Health and Wellness, includes a description and evaluation of health and environmental justice issues in Corona to inform the general plan and EIR.

6.4.1 Issues for Consideration

» **Health Outcomes**. Health outcomes refer to the current health status of residents of Corona and speak largely to the quality of life they experience daily. Generally, Corona's population is healthier than the nation's, but not as healthy as California's. The City faces the same issues as other communities—including high blood pressure, obesity, and diabetes. Among youth, key health conditions are obesity or excess weight, asthma, and mental health. As discussed later, these findings leave significant opportunities for positive improvements.

» **Health Behaviors**. Corona's population has a generally lower prevalence of health risk factors than the average for the nation, but a higher prevalence of risk factors than California as a whole. Key unhealthful behaviors in Corona include high levels of obesity, excessive alcohol use, lack of physical exercise, smoking, and insufficient sleep. Other unhealthful behaviors (smoking, substance use, etc.) are similar in prevalence to other communities. Among youth, unhealthy behaviors that are above the average include smoking, lack of physical exercise, poor diet and nutrition, and bullying/harassment at local schools.

» **Access to Health Facilities**. Although the Inland Empire in general lacks sufficient health care infrastructure, Corona fares far better than most communities. There are no federally designated shortages of professionals for primary care, dental, and mental health for most areas in Corona. New health care facilities continue to be built in Corona. The one traditional exception—Temescal Valley—will be improved through a new clinic. Transit is also available for residents of all incomes and abilities to access appropriate health care facilities. The City also has low-cost clinics operated by nongovernment organizations and the county.

» **Use of Health Services**. While it is critical to have appropriate health care facilities in place, residents must regularly use available services that ensure better health. Corona residents have approximately the same percentage of the adult and youth population with health insurance as the state and nation. Utilization rates also track national averages. Still, a high proportion of senior adults (about 75%) do not frequently access preventive services. While general plan policy cannot improve these statistics, implementation programs can be designed to educate residents and, to the extent possible, facilitate the use of available health services.

- **Community Safety**. Corona is one of the safest cities in Riverside county and one of the safer cities of its size in California. Incidences of violent crime, property crime, and violence at home are fairly low, despite the City's geographic size and complexity. Bicycle and pedestrian collision rates are average for a community and could be improved. While school safety is better in Corona's school district than the county or state, it is noteworthy that more than 25 percent of students do not feel schools are safe. These surveys were taken in 2015/2016 and do not reflect the heightened concerns about safety in the past year.

- **Built Environment**. Corona's built environment is supportive of a healthy lifestyle compared to other cities in Riverside County. The City has one of the highest per capita rates for full-service grocery stores in the county. Alcohol and tobacco retail density is average for the county. Land uses generating pollution are generally separated from sensitive land uses, thus reducing the exposure of residents to hazards. With respect to promoting physical activity, the City continues to invest in active transportation and recreational facilities. However, the park acreage available for public use does not meet local Quimby Act or general plan standards.

- **Environmental Pollution**. With the passage of SB 1000, environmental justice has become a concern for local communities. Due to its location near freeways and presence of heavy industry, Corona has its share of environmental pollution. The primary issue is air pollution, which affects most neighborhoods in Corona. Other environmental concerns include industry-based pollution, which affects the majority of central Corona, and mining operations, which affect the sphere. Water quality is also a concern, though the City implements an aggressive program to treat water to ensure compliance with state and federal standards.

- **Disadvantaged Communities**. SB 1000, the Planning for Healthy Communities Act, mandates the identification of disadvantaged communities based on state criteria. According to CalEnviroScreen (CES), a tool developed by CalEPA, Corona's disadvantaged communities are along both sides of SR-91. These communities' CES scores exceed the 75th percentile (worst 25%) compared to all other census tracts in the state. Seven of nine census tracts in this area are considered disadvantaged communities. These tracts have a disproportionate pollution burden (air pollution, toxic releases from industry, etc.) coupled with vulnerable resident characteristics (low income/education, unemployment, etc.).

  Geographic Differences. While public health and environmental justice issues affect all of Corona to some degree, the severity of impacts varies by location. Neighborhoods in central Corona along both sides of SR-91 have significantly poorer health outcomes, poorer health behaviors, and lower utilization of preventive care measures. As discussed above, the SR-91 corridor is disadvantaged with respect to pollution burden and socioeconomic characteristics. No other area is designated as disadvantaged, although issues exist. Areas adjacent to the I-15 are not disadvantaged but also have significant air quality concerns from the freeway, nearby industrial business, prevailing winds, and topography. Southwest Corona has the fewest health and environmental pollution issues.

6.4.2 Opportunities

Corona faces the same health issues as any community in Riverside County and the State of California. Corona is better off than many of its peer communities, but could still be healthier. Improved diets, more physical activity, less substance misuse, and increased preventive care can significantly improve health outcomes and quality of life. The opportunities for improving health and environmental justice can be reflected in general plan policy and implementation programs.

» **General Plan Vision**. Health, wellness, and environmental justice will need to be woven into the general plan. The first level is the vision. The vision contains language that suggests the importance of community health, but it is indirect and understates the importance of this issue to residents. It is recommended that a separate vision principal be established that clearly expresses the City's commitment and desire to integrate health and wellness at all levels—in the built environment, natural environment, social environment, etc.

» **General Plan Policies**. Policy level guidance should also be included to address health and environmental justice. State law will require the general plan to develop goals and policies to reduce unique or compounded health risks in disadvantaged communities by means that include, but are not limited to:

- Reducing pollution exposure
- Improving air quality
- Promoting public facilities
- Promoting food access
- Promoting safe and sanitary homes
- Promoting physical activity
- Education and public awareness
- Improving personal health and wellness

» **General Plan Implementation**. The General Plan should prioritize improvements and programs that address the unique needs of disadvantaged communities. This will require a clear identification of communities in need based on state and local criteria. These programs should also be developed with ample opportunities for civil engagement in the public decision making process. The programs do not necessarily need to be solely funded by the City, but can be implemented through partnerships with nongovernmental organizations.

» **Geographic Targeting**. While the City has implemented healthy community programs for some time, the effort appears to need greater geographic focus. The vast majority of health concerns are concentrated within census tracts along both sides of the SR-91. These older census tracts have a significantly higher prevalence of poor health and associated environmental pollution and socioeconomic characteristics that detract from positive health outcomes. Concentrating resources into these areas can reap the greatest benefits.

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Corona General Plan

Technical Background Report

Appendix O SB 18/AB52 Correspondence

Appendices

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GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians /Gabrielino Tribal Council
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

City of Corana
400 S. Vicentia Ave
Corona, CA 92882

August 29, 2018

Re: AB52 Consultation request for General Plan City of Corona Riverside

Dear Terri Manuel,

Please find this letter as a written request for consultation regarding the above-mentioned project pursuant to Public Resources Code § 21080.3.1, subd. (d). Your project lies within our ancestral tribal territory, meaning belonging to or inherited from, which is a higher degree of kinship than traditional or cultural affiliation. Your project is located within a sensitive area and may cause a substantial adverse change in the significance of our tribal cultural resources. Most often, a records search for our tribal cultural resources will result in a "no records found" for the project area. The Native American Heritage Commission (NAHC), ethnographers, historians, and professional archaeologists can only provide limited information that has been previously documented about California Native Tribes. For this reason, the NAHC will always refer the lead agency to the respective Native American Tribe of the area. The NAHC is only aware of general information and are not the experts on each California Tribe. Our Elder Committee & tribal historians are the experts for our Tribe and can provide a more complete history (both written and oral) regarding the location of historic villages, trade routes, cemeteries and sacred/religious sites in the project area.

Additionally, CEQA now defines Tribal Cultural Resources (TCRs) as their own independent element separate from archaeological resources. Environmental documents shall now address a separate Tribal Cultural Resource section which includes a thorough analysis of the impacts to only Tribal Cultural Resources (TCRs) and includes independent mitigation measures created with Tribal input during AB-52 consultations. As a result, all mitigation measures, conditions of approval and agreements regarding TCRs (i.e. prehistoric resources) shall be handled solely with the Tribal Government and not through an Environmental/Archaeological firm.

In effort to avoid adverse effects to our tribal cultural resources, we would like to consult with you and your staff to provide you with a more complete understanding of the prehistoric use(s) of the project area and the potential risks for causing a substantial adverse change to the significance of our tribal cultural resources.

Consultation appointments are available on Wednesdays and Thursdays at our offices at 910 N. Citrus Ave. Covina, CA 91722 or over the phone. Please call toll free 1-844-390-0787 or email admin@gabrielenoindians.org to schedule an appointment.

*** Prior to the first consultation with our Tribe, we ask all those individuals participating in the consultation to view a video produced and provided by CalEPA and the NAHC for sensitivity and understanding of AB52. You can view their videos at: http://calepa.ca.gov/Tribal/Training/ or http://nahc.ca.gov/2015/12/ab-52-tribal-training/*

With Respect,

Andrew Salas, Chairman

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Christina Swindall Martinez, secretary
Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the Council of Elders
PO Box 393, Covina, CA 91723 | www.gabrielenoindians.org | gabrielenoindians@yahoo.com

Gabrieleno Band of Mission Indians – Kizh Nation

Protection of Tribal Cultural Resources (TCRs)

Most Important Things for Agencies to Know About AB52:

- An EIR, MND, or ND can not be certified until AB-52 tribal consultation has concluded.
- Agreed mitigation measures with the tribe, MUST be recommended for inclusion in the environmental document.
- Signature confirming acceptance of these mitigation measures recommended by our Tribal Government is required within 14 days of receipt to conclude AB52 consultation.

Tribal Cultural Resources Mitigation Measures within Kizh Nation Tribal Territory:

Note: To avoid compliance issues with the following laws, all Native American Monitoring shall be conducted by a documented lineal descendant from the ancestral Tribe of the project area.

- The Native American Graves Protection and Repatriation Act (NAGPRA), Public Law-101-601, 25 U.S.C. 3001 et seq., 104 Stat. 3048.
- CEQA Guidelines Section15064.5, PRC 5097.98 (d)(1).
- The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

If you are receiving these measures, The Gabrieleño Band of Mission Indians Kizh -Nation are the direct lineal descendants of your project area. The Kizh Nation ONLY responds and consults on projects within their ANCESTRAL tribal territory. Therefore, to remain in compliance with above referenced laws and to enable our Tribe with the ability to protect and preserve our last remaining and irreplaceable Tribal Cultural Resources, it is recommended that the project applicant retain a qualified professional tribal monitor/consultant from the Gabrieleño Band of Mission Indians Kizh -Nation. The Kizh Nation possesses Tribal archives including documented historical information as well as multiple members who possess unique knowledge derived from oral tradition passed down through generations of the Tribe in order to provide the expertise needed to identify whether a project is located within a culturally sensitive area given its proximity to village areas, commerce areas, recreation areas, ceremonial areas, and burial locations.

Native American Heritage Commission (NAHC) Guidelines for Native American Monitors/Consultants (approved 9/13/05): By acting as a liaison between Native American, archaeologist, developers, contactors and public agency, a Native American monitor/consultant can ensure that cultural features are treated appropriately from the Native American point of view. This can help others involved in a project to coordinate mitigation measures. These guidelines are intended to provide prospective monitors/consultants, and people who hire monitors/consultants, with an understanding of the scope and extant of knowledge that should be expected.

Mitigation Guidelines for Tribal Cultural Resources (TCRs): CEQA now defines TCRs as an independent element separate from archaeological resources. Environmental documents shall address a separate Tribal Cultural Resources section that includes a thorough analysis of the impacts to only TCRs and includes separate and independent mitigation measures created with tribal input under AB-52 consultations. Therefore, all agreements, mitigation, and conditions of approval regarding TCRs shall be handled solely with the Tribal Government and conversely all agreements, mitigation, and conditions of approval regarding Archaeological Resources shall be handled by an Archaeological resource company.

MITIGATION MEASURES

Retain a Native American Monitor/Consultant: The Project Applicant shall be required to retain and compensate for the services of a Tribal monitor/consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the NAHC's Tribal Contact list for the area of the project location. This list is provided by the NAHC. The monitor/consultant will only be present on-site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The Tribal Monitor/consultant will complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor/consultant have indicated that the site has a low potential for impacting Tribal Cultural Resources.

Unanticipated Discovery of Tribal Cultural and Archaeological Resources: Upon discovery of any archaeological resources, cease construction activities in the immediate vicinity of the find until the find can be assessed. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and tribal monitor/consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the project while evaluation and, if necessary, mitigation takes place (CEQA Guidelines Section15064.5 [f]). If a resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource", time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and

Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes.

Unanticipated Discovery of Human Remains and Associated Funerary Objects:
Native American human remains are defined in PRC 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC 5097.98, are also to be treated according to this statute. Health and Safety Code 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission (NAHC) and PRC 5097.98 shall be followed.

Resource Assessment & Continuation of Work Protocol:

Upon discovery, the tribal and/or archaeological monitor/consultant/consultant will immediately divert work at minimum of 150 feet and place an exclusion zone around the burial. The monitor/consultant(s) will then notify the Tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the NAHC as mandated by state law who will then appoint a Most Likely Descendent (MLD).

Kizh-Gabrieleno Procedures for burials and funerary remains:

If the Gabrieleno Band of Mission Indians – Kizh Nation is designated MLD, the following treatment measures shall be implemented. To the Tribe, the term "human remains" encompasses more than human bones. In ancient as well as historic times, Tribal Traditions included, but were not limited to, the burial of funerary objects with the deceased, and the ceremonial burning of human remains. These remains are to be treated in the same manner as bone fragments that remain intact. Associated funerary objects are objects that, as part of the death rite or ceremony of a culture, are reasonably believed to have been placed with individual human remains either at the time of death or later; other items made exclusively for burial purposes or to contain human remains can also be considered as associated funerary objects.

Treatment Measures:

Prior to the continuation of ground disturbing activities, the land owner shall arrange a designated site location within the footprint of the project for the respectful reburial of the human remains and/or ceremonial objects. In the case where discovered human remains cannot be fully documented and recovered on the same day, the remains will be covered with muslin cloth and a steel plate that can be moved by heavy equipment placed over the excavation opening to protect the remains. If this type of steel plate is not available, a 24-hour guard should be posted outside of working hours. The Tribe will make every effort to recommend diverting the project and keeping the remains in situ and protected. If the project cannot be diverted, it may be determined that burials will be removed. The Tribe will work closely with the qualified archaeologist to ensure that the excavation is treated carefully, ethically and respectfully. If data recovery is approved by the Tribe, documentation shall be taken which includes at a minimum detailed descriptive notes and sketches. Additional types of documentation shall be approved by the Tribe for data recovery purposes. Cremations will either be removed in bulk or by means as necessary to ensure completely recovery of all material. If the discovery of human remains includes four or more burials, the location is considered a cemetery and a separate treatment plan shall be created. Once complete, a final report of all activities is to be submitted to the Tribe and the NAHC. The Tribe does NOT authorize any scientific study or the utilization of any invasive diagnostics on human remains.

Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location agreed upon between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

Professional Standards: Archaeological and Native American monitoring and excavation during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Native American archaeological sites in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.

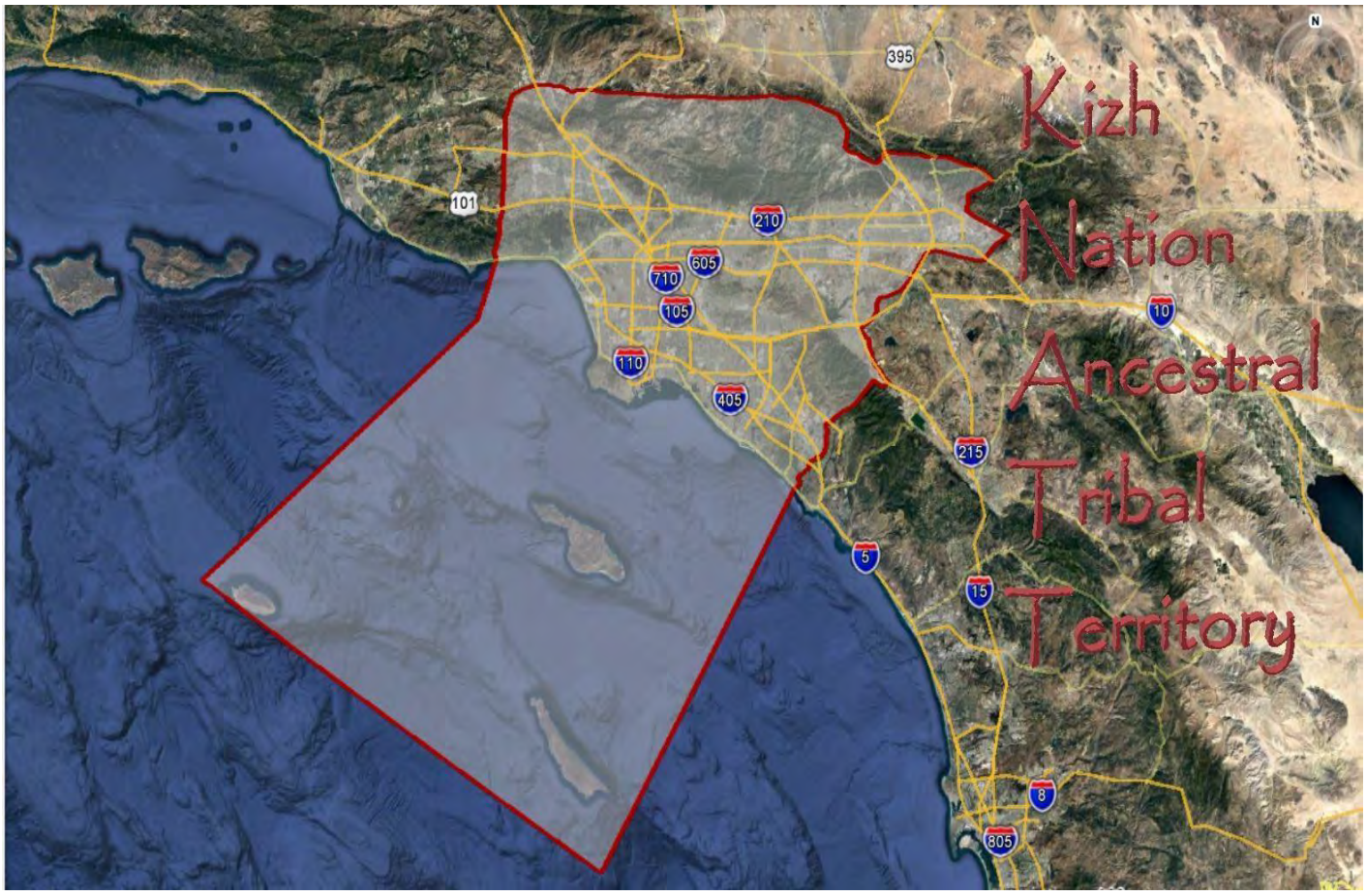
Acceptance of Tribal Government Recommended Mitigation Measures:

By _____ Date: _____
Lead Agency Representative Signature

Revised: August 2018

Attachment A

Kizh Nation Ancestral Tribal Territory extended along the coast from Malibu Creek in Los Angeles County down to Aliso Creek in Orange County and encompassed the Channel Islands of Catalina (Pimugna), San Nicolas (Haraasnga), and San Clemente (Kiinkenga). Our inland border was the San Gabriel Mountains (Hidakupa) and eastwardly our territory extended to parts of San Bernardino (Waatsngna), Orange, and Riverside counties.



From: Terri Manuel
To: Nicole Vermilion
Subject: FW: Corona General Plan Interim Technical Update - SB 18 and AB 52 Consultations
Date: Thursday, September 20, 2018 11:17:40 AM

From: Administration Gabrieleno Indian
Sent: Thursday, September 20, 2018 11:10 AM
To: Gary Stickel
Subject: Re: Corona General Plan Interim Technical Update - SB 18 and AB 52 Consultations

Evaluation of tongva

http://gabrielenoindians.com/KIZH_NOT_TONGVA_files/Kizh%20not%20Tongva_4-06-16.pdf

California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

August 1, 2018
Re: City of Long Beach LCP Amendment No. 1-18 (LCP-5-LOB-18-0026-1) (SEADIP)
Dear California Coastal Commission,
My name is Joe Castillo, and I'm an independent historical researcher and author, and am presently completing a study on the evolution of the term 'Tongva'. My research to date has included a review of 155 sources of information from 1774 through 2018. The study included a survey of multiple subject-related materials associated with the San Gabriel Mission, Southern California locations, Los Angeles and California history and Native Americans cultural, historical and anthropological records. My research included the following types of resources: a) published books, b) various documents and manuscripts, c) legislative documents, d) posters, e) maps, f) sites and signage, g) articles and h) websites. In addition, I have interviewed a variety of Native American and 'Tongva' authorities to gain a comprehensive understanding of the evolution of the term 'Tongva'.
My research has resulted in the following statements based on identified factual records:

· The Gabrielino's are recognized by the State of California as the aboriginal tribe of the Los Angeles basin. The Tongva are not recognized by the State of California which documented in its 1994 legislative research that there was 'no support' for the 'Tongva' name;

· The 'Tongva' term was first defined by C. Hart Merriam in 1903. Merriam was performing a study of California Indians by documenting their language, boundaries and tribal origins. In his notes, Merriam documented that the 'Tongva' were from Tejon and referenced the Indians at the San Gabriel Mission as 'San Gabriels'. Even though Merriam wrote the notes, they were not published until 1955 and 1966, after being compiled and edited by university researchers. In addition, Merriam's research

practices were not considered conventional and were not reviewed, critiqued and accepted by his colleagues in the anthropological field;

· Prior to 1992, only 8 sources of the study population of 155 identified the term 'Tongva' and 7 of the 8 sources were based on information provided by Merriam. From 1774 to 1992, a period of 218 years, only two separate researchers identified and applied the term 'Tongva' in their professional works, and even then it was not in reference to a Los Angeles area based tribe;

· Since 1992, the study population identified 57 sources which reference the term 'Tongva' but do not provide detailed research data and information to support it as the authentic and accurate ancestral, cultural and historical name of the Gabrielinos.

In summary, my research has led to the following conclusions:

· The 'Tongva' name is inaccurate when referenced as a Los Angles based tribe with negligible support from historical records and unconfirmed in comprehensive research studies by professional anthropologists;

· The 'Tongva' term primarily evolved in 1992 casting significant doubt on its validity as the aboriginal tribal name of Los Angeles based Indian tribes dating back to the Spanish Mission era and before.

As such, it is my recommendation, that any organization choosing to be associated with an entity named with the term 'Tongva' should reconsider its relationship until additional confirmed and validated evidence can be offered to support its claim as the aboriginal tribe of the Los Angeles Basin. Each entity should be able to provide ancestral, cultural and historical evidence in support of its claim as the aboriginal tribe of the Los Angeles basin. However, it is highly unlikely that such evidence even exists as starting in 1992 the 'Tongva' term was first associated with a Los Angeles based tribe even with negligible support for its ancestral, cultural and historical foundation.

My study is expected to be finalized in September 2018 and will provide additional factual documentation in support of the information provided in this memo.

Thank you for your consideration on this matter,

Joe Castillo

Historical Researcher

Joe Castillo

On Thu, Sep 20, 2018 at 9:50 AM Terri Manuel wrote:

> Here is the foundational report without appendices. The document is too large to e-mail with those attached to it.
>
> Terri
>
> **From:** Administration Gabrieleno Indians
> **Sent:** Thursday, September 20, 2018 9:36 AM
> **To:** Terri Manuel
> **Cc:** Nicole Vermilion
> **Subject:** Re: Corona General Plan Interim Technical Update - SB 18 and AB 52 Consultations
>
> Hello Terri
> Can you please resend as a attachment I'm having difficulties opening it up. Thank you
>
> On Thu, Sep 20, 2018 at 8:04 AM Terri Manuel wrote:
>
> > Good morning,
> >
> > Thank you for your letter of August 29th requesting consultation on the city's Interim General Plan update. In anticipation of our conversation, I'd like to share with you the

Cultural Resources analysis that has been prepared for this effort. It is at the following link:

Here is a link with the Cultural, Paleo, and Biological Resources Reports.

Please advise as to when we may be able to speak. I can call you next week if you provide the best date and time.

I look forward to talking with you.

Terri Manuel
Planning Manager
City of Corona
951-736-2299

--
Sincerely,
Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org



--
Sincerely,
Admin Specialist
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
Office: 844-390-0787
website: www.gabrielenoindians.org



From:	Terri Manuel
To:	Nicole Vermilion
Subject:	FW: City of Corona General Plan Update
Date:	Wednesday, August 29, 2018 2:44:19 PM

From: Padilla, Lacy (TRBL)
Sent: Friday, August 24, 2018 11:34 AM
To: Terri Manuel <Terri.Manuel@CoronaCA.gov>
Subject: City of Corona General Plan Update

Greetings,

A records check of the Tribal Historic preservation office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,

Lacy Padilla
Archaeological Technician
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92264
760-699-6956 Office

The information contained in this message may be privileged and confidential and protected from disclosure. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by replying to the message and deleting it from your computer

PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 770-6300 • Fax (951) 506-9491

Chairperson:
Neal Ibanez

Vice Chairperson:
Bridgett Barcello

Committee Members:
Andrew Masiel, Sr.
Darlene Miranda
Evie Gerber
Richard B. Scearce, III
Robert Villalobos

Director:
Gary DuBois

Coordinator:
Paul Macarro

Cultural Analyst:
Tuba Ebru Ozdil

Planning Specialist:
Molly E. Escobar

September 5, 2018

VIA E-MAIL and USPS

Terri Manuel, Planning Manager
Planning Division
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Re: Pechanga Tribe Request for Consultation Pursuant to SB 18 for City of Corona General Plan Technical Update

Dear Ms. Manuel,

This letter is written on behalf of the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government, in response to the SB18 notice provided by the City of Corona. This letter serves as the Tribe's formal request for consultation under SB 18 for this Project. At this time, we do not have sufficient information to engage in meaningful consultation, as required by SB 18. As such, the Tribe hereby invokes its right to consult with the City under SB 18 and after reviewing the information requested below, we may request additional consultation, which may include a face-to-face meeting.

Further, the Tribe formally requests, pursuant to Public Resources Code §21092.2, to be notified and involved in the entire CEQA environmental review process for the duration of the above referenced project (the "Project"). Please add the Tribe to your distribution list(s) for public notices and circulation of all documents, including environmental review documents, archeological reports, and all documents pertaining to this Project. The Tribe further requests to be directly notified of all public hearings and scheduled approvals concerning this Project. Please also incorporate these comments into the record of approval for this Project.

The Pechanga Tribe asserts that the Project area is part of '*Atáaxum* (Luiseño), and therefore the Tribe's, aboriginal territory as evidenced by the existence of '*Atáaxum* place names, *tóota yixélval* (rock art, pictographs, petroglyphs), and an extensive Luiseño artifact record in the vicinity of the Project. This culturally sensitive area is affiliated with the Pechanga Band of Luiseño Indians because of the Tribe's cultural ties to this area as well as extensive history with both this Project and other projects within the area. During our consultation we will provide more specific, confidential information on the resources located on and near this Project.

The Tribe has not received any documents for this Project. Please provide us copies of all available documents [reports, drafts, etc.] as soon as possible so that we may review them prior to our initial SB 18 meeting.

As you know, the SB 18 consultation process is ongoing and continues for the duration of the Project. As such, under both CEQA and SB 18 we look forward to working closely with the City on ensuring that a full, comprehensive environmental review of the Project's impacts is completed. Further, we hope to assist the City with ensuring that the Project is designed to avoid impacts to cultural resources, as mandated by CEQA, in addition to developing mitigation measures addressing the culturally appropriate and respectful treatment of human remains, cultural resources and inadvertent discoveries.

In addition to those rights granted to the Tribe under SB 18, the Tribe reserves the right to fully participate in the environmental review process, as well as to provide further comment on the Project's impacts to cultural resources and potential mitigation for such impacts.

The Pechanga Tribe looks forward to working together with the City of Corona in protecting the invaluable Pechanga cultural resources found in the Project area. Please contact me at 951-770-6313 or at eozdil@pechanga-nsn.gov once you have had a chance to review these comments so that we might address the issues concerning the mitigation language. Thank you.

Sincerely,

Tuba Ebru Ozdil
Cultural Analyst

cc Pechanga Office of the General Counsel

September 19, 2018

Attn: Terri Manuel, Planning Manager
City of Corona
Community Development Department
400 South Vicentia Avenue
Corona, CA 92882

RE: AB 52 Consultation; City of Corona General Plan, City of Corona, Riverside County, CA

The Soboba Band of Luiseño Indians has received your notification pursuant under Assembly Bill 52.

Soboba Band of Luiseño Indians is requesting to initiate formal consultation with the City of Corona. A meeting can be scheduled by contacting me via email or phone. All contact information has been included in this letter.

I look forward to hearing from and meeting with you soon.

Sincerely,

Joseph Ontiveros, Tribal Historic Preservation Officer
Soboba Band of Luiseño Indians
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and the City of Corona. No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

September 19, 2018

Attn: Terri Manuel, Planning Manager
City of Corona
Community Development Department
400 South Vicentia Avenue
Corona, CA 92882

RE: SB 18 Consultation; City of Corona General Plan, City of Corona, Riverside County, CA

The Soboba Band of Luiseño Indians appreciates your observance of Tribal Cultural Resources and their preservation in your project. The information provided to us on said project has been assessed through our Cultural Resource Department, where it was concluded that although it is outside the existing reservation, the project area does fall within the bounds of our Tribal Traditional Use Areas. This project location is in proximity to known sites, is a shared use area that was used in ongoing trade between the tribes, and is considered to be culturally sensitive by the people of Soboba.

Soboba Band of Luiseño Indians is requesting the following:

1. **Government to Government** consultation in accordance to SB18. Including the transfer of information to the Soboba Band of Luiseño Indians regarding the progress of this project should be done as soon as new developments occur.

2. Soboba Band of Luiseño Indians continue to be a consulting tribal entity for this project.

3. Working in and around traditional use areas intensifies the possibility of encountering cultural resources during the construction/excavation phase. For this reason the Soboba Band of Luiseño Indians requests that Native American Monitor(s) from the Soboba Band of Luiseño Indians Cultural Resource Department to be present during any ground disturbing proceedings. Including surveys and archaeological testing.

4. Request that proper procedures be taken and requests of the tribe be honored (Please see the attachment)

Sincerely,

Joseph Ontiveros, Tribal Historic Preservation Officer
Soboba Cultural Resource Department
P.O. Box 487
San Jacinto, CA 92581
Phone (951) 654-5544 ext. 4137

Cultural Items (Artifacts). Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer should agree to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

The Developer should waive any and all claims to ownership of Native American ceremonial and cultural artifacts that may be found on the Project site. Upon completion of authorized and mandatory archeological analysis, the Developer should return said artifacts to the Soboba Band within a reasonable time period agreed to by the Parties and not to exceed (30) days from the initial recovery of the items.

Treatment and Disposition of Remains

A. The Soboba Band shall be allowed, under California Public Resources Code § 5097.98 (a), to (1) inspect the site of the discovery and (2) make determinations as to how the human remains and grave goods shall be treated and disposed of with appropriate dignity.

B. The Soboba Band, as MLD, shall complete its inspection within twenty-four (24) hours of receiving notification from either the Developer or the NAHC, as required by California Public Resources Code § 5097.98 (a). The Parties agree to discuss in good faith what constitutes "appropriate dignity" as that term is used in the applicable statutes.

C. Reburial of human remains shall be accomplished in compliance with the California Public Resources Code § 5097.98 (a) and (b). The Soboba Band, as the MLD in consultation with the Developer, shall make the final discretionary determination regarding the appropriate disposition and treatment of human remains.

D. All parties are aware that the Soboba Band may wish to rebury the human remains and associated ceremonial and cultural items (artifacts) on or near, the site of their discovery, in an area that shall not be subject to future subsurface disturbances. The Developer should accommodate on-site reburial in a location mutually agreed upon by the Parties.

E. The term "human remains" encompasses more than human bones because the Soboba Band's traditions periodically necessitated the ceremonial burning of human remains. Grave goods are those artifacts associated with any human remains. These items, and other funerary remnants and their ashes are to be treated in the same manner as human bone fragments or bones that remain intact

Coordination with County Coroner's Office. The Lead Agencies and the Developer should immediately contact both the Coroner and the Soboba Band in the event that any human remains are discovered during implementation of the Project. If the Coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, the Coroner shall ensure that notification is provided to the NAHC within twenty-four (24) hours of the determination, as required by California Health and Safety Code § 7050.5 (c).

Non-Disclosure of Location Reburials. It is understood by all parties that unless otherwise required by law, the site of any reburial of Native American human remains or cultural artifacts shall not be disclosed and shall not be governed by public disclosure requirements of the California Public Records Act. The Coroner, parties, and Lead Agencies, will be asked to withhold public disclosure information related to such reburial, pursuant to the specific exemption set forth in California Government Code § 6254 (r).
Ceremonial items and items of cultural patrimony reflect traditional religious beliefs and practices of the Soboba Band. The Developer agrees to return all Native American ceremonial items and items of cultural patrimony that may be found on the project site to the Soboba Band for appropriate treatment. In addition, the Soboba Band requests the return of all other cultural items (artifacts) that are recovered during the course of archaeological investigations. Where appropriate and agreed upon in advance, Developer's archeologist may conduct analyses of certain artifact classes if required by CEQA, Section 106 of NHPA, the mitigation measures or conditions of approval for the Project. This may include but is not limited or restricted to include shell, bone, ceramic, stone or other artifacts.

Confidentiality: The entirety of the contents of this letter shall remain confidential between Soboba and the City of Corona. No part of the contents of this letter may be shared, copied, or utilized in any way with any other individual, entity, municipality, or tribe, whatsoever, without the expressed written permission of the Soboba Band of Luiseño Indians.

When developers and public agencies assess the environmental impact of their projects, they must consider "historical resources" as an aspect of the environment in accordance with California Environmental Quality Act (CEQA) Guidelines section 15064.5. These cultural features can include Native American graves and artifacts; traditional cultural landscapes; natural resources used for food, ceremonies or traditional crafts; and places that have special significance because of the spiritual power associated with them. When projects are proposed in areas where Native American cultural features are likely to be affected, one way to avoid damaging them is to have a Native American monitor/consultant present during ground disturbing work. In sensitive areas, it may also be appropriate to have a monitor/consultant on site during construction work.

A knowledgeable, well-trained Native American monitor/consultant can identify an area that has been used as a village site, gathering area, burial site, etc. and estimate how extensive the site might be. A monitor/consultant can prevent damage to a site by being able to communicate well with others involved in the project, which might involve:

1. Requesting excavation work to stop so that new discoveries can be evaluated;
2. Sharing information so that others will understand the cultural importance of the features involved;
3. Ensuring excavation or disturbance of the site is halted and the appropriate State laws are followed when human remains are discovered;
4. Helping to ensure that Native American human remains and any associated grave items are treated with culturally appropriate dignity, as is intended by State law.

By acting as a liaison between Native Americans, archaeologists, developers, contractors and public agencies, a Native American monitor/consultant can ensure that cultural features are treated appropriately from the Native American point of view. This can help others involved in a project to coordinate mitigation measures. These guidelines are intended to provide prospective monitors/consultants, and people who hire monitors/consultants, with an understanding of the scope and extent of knowledge that should be expected.

DESIRABLE KNOWLEDGE AND ABILITIES:

1. The on-site monitor/consultant should have knowledge of local historic and prehistoric Native American village sites, culture, religion, ceremony, and burial practices.
2. Knowledge and understanding of Health and Safety Code section 7050.5 and Public Resources Code section 5097.9 et al.

3. Ability to effectively communicate the meaning of Health and Safety Code section 7050.5 and Public Resources Code section 5097.9 et al. to project developers, Native Americans, planners, landowners, and archaeologists.
4. Ability to work with local law enforcement officials and the Native American Heritage Commission to ensure the return of all associated grave goods taken from a Native American grave during excavation.
5. Ability to travel to project sites within traditional tribal territory.
6. Knowledge and understanding of CEQA Guidelines section 15064.5 and Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended.
7. Ability to advocate for the preservation in place of Native American cultural features through knowledge and understanding of CEQA mitigation provisions, as stated in CEQA Guidelines section 15126.4(b)(A)(B), and through knowledge and understanding of Section 106 of the NHPA.
8. Ability to read a topographical map and be able to locate sites and reburial locations for future inclusion in the Native American Heritage Commission's (NAHC) Sacred Lands Inventory.
9. Knowledge and understanding of archaeological practices, including the phases of archaeological investigation.

REQUIREMENTS:

1. Required to communicate orally and in writing with local Native American tribes, project developers, archaeologists, planners and NAHC staff, and others involved in mitigation plans.
2. Required to maintain a daily log of activities and prepare well written progress reports on any "findings" at a project site (i.e., human remains, associated grave goods, remains, bone fragments, beads, arrow points, pottery and other artifacts).
3. Required to prepare a final written report describing the discovery of any Native American human remains and associated grave goods, and their final disposition. This report shall contain at a minimum the date of the find, description of remains and associated grave goods, date of reburial, and the geographical location of reburial, including traditional site name if known. The report shall include a discussion of mitigation measures taken to preserve or protect Native American cultural features and, if applicable, a comparison with mitigation measures described in the environmental impact report. This report shall be submitted to NAHC after the completion of the project. Information from the report may be included in the NAHC Sacred Lands Inventory.
4. Ability to identify archaeological deposits and potential areas of impact.

EXPERIENCE:

It is recommended that each monitor/consultant have experience working with Native American cultural features under the guidance of an archaeologist that meets the professional qualifications, as defined in the in the *Secretary of the Interior's Standards and Guidelines* for archaeology. Letters from an on-site archaeologist should be submitted with a copy of the archaeologist's resume. Experience and knowledge regarding cultural, traditional, and religious practices can be gained by training from tribal elders. This experience and knowledge may be verified by the submission of such things as copies of contracts, reports, and letters from elders. Formal education in an appropriate field, such as anthropology, archaeology, or ethnology, may be substituted for experience.

PREFERENCE:

It is recommended that preference for monitor/consultant positions be given to California Native Americans culturally affiliated with the project area. These Native Americans will usually have knowledge of the local customs, traditions, and religious practices. They are also aware of the local tribal leaders, elders, traditionalists, and spiritual leaders. Since it is their traditional area being impacted, culturally affiliated Native Americans have a vested interest in the project.

Approved by the Native American Heritage Commission: 9/13/2005

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AUGUSTINE BAND OF CAHUILLA INDIANS

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Tribal Secretary: Victoria Martin

RECEIVED
SEP 20 2018
COMMUNITY DEVELOPMENT DEPT

August 23, 2018

Terri Manuel
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Re: **Notice of Preparation and Scoping Meeting for the Corona General Plan Interim Technical Update Environmental Impact Report**

Dear Ms. Manuel-

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Victoria Martin
Tribal Secretary



Corona General Plan Technical Update