Citywide Engineering and Traffic Survey Report

Submitted to:
City of Fullerton

February 2020

Albert Grover & Associates

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Section 1.0 - Introduction

The purpose of this report is to document the results of an engineering and traffic survey conducted to update the speed limits on the City of Fullerton arterial and collector street network. The overall study was conducted to comply with existing State regulations concerning the increasing or decreasing of speed limits within City boundaries.

It is a common belief that posting of speed limit traffic signs will influence drivers to drive at that speed. However, the facts indicate otherwise.

Driver behavioral research conducted in many parts of this country over a span of several decades shows that the average driver is influenced by the appearance of the highway itself and the prevailing traffic conditions in choosing the speed at which he or she drives. Recognizing this, the California Vehicle Code (CVC) requires that speed limits be established in accordance with appropriate engineering practice and methods.

This report contains sufficient information to document that the conditions of the latest edition of the California Vehicle Code Section 627 have been satisfied and that other conditions not readily apparent to a motorist are properly identified. States and local agencies should conduct engineering studies at least once every 5, 7 or 10 years, in compliance with CVC Section 40802 to reevaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review, such as the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes in traffic control signal coordination, or significant changes in traffic volumes. The latest edition of the CVC has highlighted bicycle and pedestrian safety as part of the traffic and engineering survey, and this aspect was considered.

According to City records, the last speed zone survey was prepared in 2014. The current study will verify, increase, or decrease existing speed limits within the City of Fullerton based on the data and results of this survey.

At 157 locations on the City's network, spot speed surveys were taken in conformance with the State law for conducting engineering and traffic surveys for the purpose of establishing prima facie speed limits. The data was collected per the California Manual of Uniform Traffic Control Devices (CA MUTCD) November 2014. Sections of the CA MUTCD detailing regulations for conducting the required "Engineering and Traffic Survey" are presented in **Appendix A** (Section 2B.13). Also in Appendix A are definitions of terms used in speed zone surveys. Excerpts from the CVC regarding regulations governing speed limits are presented in Appendix B.

The actual speed zone surveys were conducted by Albert Grover & Associates (AGA). A California registered traffic engineer from AGA reviewed the streets.

Section 2.0 - Study Methodology

The study involved three major categories of data collection and analysis. The three major components are: (1) geometric and characteristic street surveillance; (2) spot speed survey; and (3) accident rate analysis.

The arterial and collector streets were surveyed by field observation to determine the existing roadway characteristics, condition and placement of signs and markings, adjacent land uses, pedestrian and bicycle activity, and to identify roadway characteristics that are not readily apparent to vehicle drivers.

Spot speed surveys, utilizing a calibrated radar gun, were conducted at 157 locations to determine existing vehicular travel speeds. A minimum of 100 observations (when possible) were recorded. This data was used to calculate statistical information such as the 85th percentile speed, 10 mile per hour pace speed, percent of vehicles within the 10 mile per hour pace, median speed and other pertinent data for analysis.

Accident data was tabulated from the City's Accident Records (Crossroads) for the period from January 1, 2017 through December 31, 2018 (two years) for all roadway segments. The accident rate was calculated and considered in recommending the speed limits accordingly.

Section 3.0 - Survey Results

3.1 Street Surveillance

"Speed Limit Sign (R2-1)," Section 2B.13 of the CA MUTCD 2014, states the following,
Standard:

12a When a speed limit is to be posted, it shall be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic, except as shown in the two Options below.
Option:

1. The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th-percentile speed, in compliance with CVC Sections 627 and 22358.5. See Standard below for documentation requirements.
2. For cases in which the nearest 5 mph increment of the 85th-percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85th percentile speed, if no further reduction is used. Refer to CVC Section 21400(b).

Standard:

12b If the speed limit to be posted has had the 5 mph reduction applied, then an E&TS shall document in writing the conditions and justification for the lower speed limit and be approved by a registered Civil or Traffic Engineer. The reasons for the lower speed limit shall be in compliance with CVC Sections 627 and 22358.5.
Support:

12c The following examples are provided to explain the application of these speed limit criteria:

Example 1. Using Option 1 above and first step is to round down: If the 85th percentile speed in a speed survey for a location was 37 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed. As indicated by the option, this 35 mph established speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the E&TS and approved by a registered Civil or Traffic Engineer.

Example 2. Using Option 1 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 33 mph speed. As indicated by the option, this 35 mph speed limit could be reduced by 5 mph to 30 mph if the conditions and justification for using this lower speed limit are documented in the E&TS and approved by a registered Civil or Traffic Engineer.

Example 3. Using Option 2 above and first step is to round up: If the 85th percentile speed in a speed survey for a location was 33 mph, instead of rounding up to 35mph, the speed limit can be established at 30mph, but no further reductions can be applied (which is allowed in the two examples above).

Standard:

12d Examples 1 and 2 for establishing posted speed limits shall apply to engineering and traffic surveys (E&TS) performed on or after July 1, 2009 in accordance with Caltrans' Traffic Operations Policy Directive Number 09-04 dated June 29, 2009.
Option:

12e After January 1, 2012, Example 3 may be used to establish speed limits. Refer to CVC 21400(b).

Support:

12f Any existing E&TS that was performed before July 1, 2009 in accordance with previous traffic control device standards is not required to comply with the new criteria until it is due for reevaluation per the 5, 7 or 10 year criteria.

Whenever such factors are considered to establish the speed limit, they should be documented on the speed survey or in the accompanying engineering report.

The survey streets were reviewed by Mr. Mark Miller, P.E, Principal-in-Charge, who is a registered Civil and Traffic Engineer in the State of California. The roadway characteristics, location of speed limit signs, conditions not readily apparent to the driver, type of area adjoining the street (commercial, residential, school zone, parks, etc.) and type of roadway (divided, undivided, number of lanes, etc.) were recorded as part of the study. The roadway characteristics recorded were used to determine if any physical conditions warranted consideration of an *additional* five mile per hour reduction of the recommended speed in accordance with CVC Section 627.

The speed survey segment roadway characteristics for each segment are indicated on the Engineering and Speed Survey Summary sheets in **Appendix C (binder)**.

3.2 Accident Rate Analysis

The accident rate for each speed survey segment was determined by using the most recent accident records as required by CVC Section 627. Based on a review of the City's Accident Record System reports from January 1, 2017 to December 31, 2018, mid-block accident rates were calculated for each street surveyed.

The results of the accident rate calculations, including the Average Expected Accident Rates for each type of roadway facility are shown in **Table 1** and in the Engineering and Speed Survey Summary sheets **(Appendix C – binder)**. The Average Expected Accident Rates are based on the latest average rate for each type of roadway in Caltrans District 12:

- Arterial Streets (4-6 lanes/divided) 1.25 - 1.71
- Secondary Streets (4 lanes/undivided) 1.68 – 1.98
- Local Streets (2 lanes/undivided) 1.11 – 2.09

The mid-block accident rate in terms of "accidents per 1,000,000 vehicle miles of travel" for each street surveyed was calculated and is shown on the Engineering and Traffic Survey summary sheets **(Appendix C –binder)**. The following shows a sample calculation.

Accident Rate Calculation:

The rate was calculated using the following equation:

$$\text{Accident Rate} = \frac{\text{Number of Midblock accidents} \times 10^6}{\text{24-hour volume} \times 365 \times \text{segment length(mi)} \times \text{number of years}}$$

Where: Number of mid-block accidents based on two years (January 1, 2017 to December 31, 2018), 24-hour volume (both directions) in the survey segment and segment length in miles.

Example:

Accident rate on: Yorba Linda Boulevard between Associated Road and Placentia Avenue:

$$\text{Accident Rate} = \frac{16 \times 10^6}{36{,}059 \times 365 \times 0.63 \times 2}$$

$$= \textbf{0.96 accidents per million vehicle miles (A/MVM)}$$

The Average Expected Accident Rate for the segment is 1.25. The calculated accident rate of 0.96 is below the expected rate for this segment.

3.3 Spot Speed Survey

Spot speed surveys were conducted at each street segment to establish a reasonable and effective speed limit based on the premise that the speed limit thus established conforms to the actual behavior of the majority of motorists. The speed limit should normally be established near the 85th percentile speed recorded for the surveyed segment. However, engineering judgment and other factors such as Street Surveillance (Section 3.1) and accident rates (Section 3.2) may indicate the need for further reduction in establishing reasonable and effective speed limits.

The criteria used in conducting the radar survey are listed in **Appendix A**.

Appendix C (binder) contains the Engineering and Speed Survey Summary sheets for each of the 157 sections surveyed. The information collected and data calculated for the radar speed survey are as follows:

- Posted speed limit
- Direction of survey
- Date and time of speed survey
- 50th Percentile speed
- 85th Percentile speed
- 10 mph pace speed

- Percent over pace speed
- Range of speeds
- Number of vehicles observed
- Average speed
- Accident History
- Accident Rate
- Average Daily Traffic
- Road Description
- Pedestrian and bicycle activity

The summary contains information about vehicular speed data observed, accident data, street classification, and any unusual conditions at the location. In addition, Table 2 displays the spot speed survey summary for all segments considered for this report.

City of Fullerton
Table 1. 2019 Speed Zone Survey - Accident Survey Analysis

Street	Location	No.	Distance (feet)	2019 ADT	Accidents 2 yr Total[1]	Accident Rate	Expected Acc. Rate[2]
	South City Limits to Orangethorpe Avenue	1	1,373	7,861	0	0.00	1.8
	Orangethorpe Avenue to Valencia Drive	2	2,627	7,861	3	1.05	1.8
	Valencia Drive to Commonwealth Avenue	3	1,334	7,861	0	0.00	1.8
	Commonwealth Avenue to Chapman Avenue	4	1,324	6,158	3	1.77	1.8
Artesia Avenue	West City Limits to Gilbert Street	5	5,156	6,139	3	0.69	1.8
Associated Road	Yorba Linda Boulevard to Bastanchury Road	6	1,584	21,336	5	1.07	1.98
	Bastanchury Road to Rolling Hills Drive	7	3,869	10,556	4	0.71	1.68
	Rolling Hills Road to North City Limits	8	2,919	10,512	4	0.94	1.68
Bastanchury Road	Malvern Avenue to Parks Road	9	4,296	17,813	1	0.10	1.41
	Parks Road to Euclid Street	10	2,313	17,813	1	0.18	1.41
	Euclid Street to Morelia Avenue	11	3,355	33,907	3	0.19	1.41
	Morelia Avenue to Harbor Boulevard	12	1,578	33,907	4	0.54	1.41
	Harbor Boulevard to Fairway Isles Drive	13	2,846	38,319	3	0.20	1.41
	Fairway Isles Drive to Brea Boulevard	14	3,599	38,319	5	0.26	1.41
	Brea Boulevard to State College Boulevard	15	5,416	39,393	7	0.24	1.41
	State College Boulevard to Associated Road	16	2,536	24,257	4	0.47	1.41
	Associated Road to East City Limits	17	3,399	20,246	6	0.63	1.41
Berkeley Avenue	Chapman Avenue to Hornet Way	18	2,137	9,766	3	1.04	1.8
	Hornet Way to Lemon Street	19	1,439	9,766	6	3.09	1.8
	Lemon Street to Harbor Boulevard	20	1,369	15,772	1	0.34	1.8
	Harbor Boulevard to Valley View Drive	21	1,585	4,715	1	0.97	1.8
Bradford Avenue	South City Limits to Yorba Linda Boulevard	22	1,992	11,928	7	2.13	1.8
Brea Boulevard	Harbor Boulevard to Lemon Street	23	1,880	24,699	4	0.62	1.68
	Lemon Street to Bastanchury Road	24	6,026	24,358	4	0.20	1.41
	Bastanchury Road to North City Limits	25	2,721	28,934	6	0.55	1.68
Brookhurst Road	Riverside Freeway (SR 91) to Orangethorpe Avenue	26	1,892	35,715	4	0.43	1.68
	Orangethorpe Avenue to Valencia Drive	27	2,663	22,823	6	0.71	1.68
	Valencia Drive to Commonwealth Avenue	28	1,309	22,823	2	0.48	1.68
Castlewood Drive	Gilbert Avenue to Parks Road	29	1,352	3,485	0	0.00	1.8
Chapman Avenue	Woods Avenue to Highland Avenue	30	2,741	23,077	2	0.23	1.68
	Highland Avenue to Harbor Boulevard	31	1,328	23,077	2	0.47	1.68
	Harbor Boulevard to Berkeley Avenue	32	3,066	35,186	13	0.87	1.68
	Berkeley Avenue to Raymond Avenue	33	2,196	35,186	9	0.84	1.68
	Raymond Avenue to Acacia Avenue	34	2,642	33,618	5	0.41	1.68
	Acacia Avenue to State College Boulevard	35	2,633	33,806	9	0.73	1.68
	State College Boulevard to Commonwealth Avenue	36	1,649	32,702	13	1.74	1.68
	Commonwealth Avenue to East City Limits	37	1,592	45,751	4	0.40	1.68
Commonwealth Avenue	Dale Street to Magnolia Avenue	38	2,662	14,268	4	0.76	1.68
	Magnolia Avenue to Gilbert Street	39	2,460	25,127	8	0.94	1.68
	Gilbert Street to Brookhurst Road	40	2,669	20,852	8	1.04	1.68
	Brookhurst Road to Basque Avenue	41	2,670	20,886	3	0.39	1.68
	Basque Avenue to Euclid Street	42	2,653	20,886	6	0.78	1.68
	Euclid Street to Richman Avenue	43	2,702	16,128	7	1.16	1.98
	Richman Avenue to Harbor Boulevard	44	2,651	16,128	6	1.02	1.98

[1] Accident Data from 1/1/17 to 12/31/18

[2] Source: Caltrans District 12 - 2016

City of Fullerton
Table 1. 2019 Speed Zone Survey - Accident Survey Analysis

Street	Location	No.	Distance (feet)	2019 ADT	Accidents 2 yr Total[1]	Accident Rate	Expected Acc. Rate[2]
Commonwealth Avenue Cont.	Harbor Boulevard to Lemon Street	45	1,366	19,835	5	1.34	1.98
	Lemon Street to Raymond Avenue	46	3,903	19,835	17	1.59	1.98
	Raymond Avenue to Acacia Avenue	47	2,644	16,435	4	0.67	1.98
	Acacia Avenue to State College Boulevard	48	2,641	14,448	7	1.33	1.98
	State College Boulevard to Chapman Avenue	49	2,461	8,705	5	1.69	1.98
	Chapman Avenue to Nutwood Avenue	50	1,403	8,229	0	0.00	1.68
Coyote Hills Drive	Gilbert Street to Castlewood Drive	51	4,586	2,500	0	0.00	2.09
Dorothy Lane	Hornet Way to Longview Drive	52	925	6,204	0	0.00	2.09
	Longview Drive to Raymond Avenue	53	1,678	6,204	0	0.00	2.09
	Raymond Avenue to Acacia Avenue	54	2,539	6,517	1	0.44	2.09
	Acacia Avenue to Victoria Drive	55	842	5,450	0	0.00	2.09
	Victoria Drive to State College Boulevard	56	1,806	6,338	2	1.26	2.09
Euclid Street	South City Limits to Orangethorpe Avenue	57	1,872	53,415	11	0.80	1.68
	Orangethorpe Avenue to Malvern Avenue	58	5,692	43,430	24	0.70	1.68
	Malvern Avenue to Valley View Drive	59	2,256	28,788	9	1.00	1.68
	Valley View Drive to Valencia Mesa Drive	60	1,881	28,788	2	0.27	1.68
	Valencia Mesa Drive to Rosecrans Avenue	61	9,986	29,138	7	0.17	1.68
	Rosecrans Avenue to North City Limits	62	7,078	21,231	9	0.43	1.41
Fender Avenue	State College Boulevard to Placentia Avenue	63	3,324	5,507	2	0.79	2.09
Gilbert Street	South City Limits to Orangethorpe Avenue	64	1,605	4,913	3	2.75	2.09
	Orangethorpe Avenue to Commonwealth Avenue	65	3,963	9,242	8	1.58	2.09
	Commonwealth Avenue to Malvern Avenue	66	2,920	40,248	6	0.37	1.68
	Malvern Avenue to Rosecrans Avenue	67	6,835	24,428	8	0.35	1.41
	Rosecrans Avenue to Castlewood Drive	68	4,147	15,647	4	0.45	1.41
	Castlewood Drive to North City Limits	69	2,048	19,178	0	0.00	1.41
Harbor Boulevard	South City Limits to Orangethorpe Avenue	70	2,016	46,862	13	1.00	1.25
	Orangethorpe Avenue to Valencia Drive	71	2,443	40,000	15	1.11	1.68
	Valencia Drive to Commonwealth Avenue	72	1,508	40,000	11	1.32	1.68
	Chapman Avenue to Berkeley Avenue	73	1,913	38,534	7	0.69	1.68
	Berkeley Avenue to Brea Boulevard	74	1,418	53,065	4	0.38	1.68
	W. Valley View Dr / Brea Blvd to Valencia Mesa	75	3,965	35,145	1	0.05	1.68
	Valencia Mesa Drive to Bastanchury Road	76	810	35,145	0	0.00	1.25
	Bastanchury Road to Hermosa Drive	77	5,097	47,250	9	0.27	1.41
	Hermosa Drive to Imperial Highway	78	2,996	47,250	10	0.51	1.41
	Imperial Highway to Lambert Road	79	2,627	40,188	5	0.34	1.25
Highland Avenue	Orangethorpe Avenue to Valencia Drive	80	2,440	9,559	5	1.55	2.09
	Valencia Drive to Commonwealth Avenue	81	1,517	11,463	0	0.00	2.09
	Commonwealth Avenue to Chapman Avenue	82	1,274	5,788	1	0.98	2.09
Hornet Way	Berkeley Avenue to Dorothy Lane	83	332	5,300	0	0.00	2.09
Kimberly Avenue	Raymond Avenue to State College Boulevard	84	5,290	1,606	0	0.00	1.11
	State College Boulevard to East City Limits	85	2,218	1,606	0	0.00	1.11
Kraemer Boulevard	South City Limits to North City Limits	86	897	20,597	0	0.00	1.41
Lambert Road	Harbor Boulevard to Palm Street	87	2,636	42,048	0	0.00	1.41

[1] Accident Data from 1/1/17 to 12/31/18

[2] Source: Caltrans District 12 - 2016

City of Fullerton
Table 1. 2019 Speed Zone Survey - Accident Survey Analysis

Street	Location	No.	Distance (feet)	2019 ADT	Accidents 2 yr Total[1]	Accident Rate	Expected Acc. Rate[2]
Lemon Street	South City Limits to Orangethorpe Avenue	88	1,902	31,450	10	1.21	1.41
	Orangethorpe Avenue to Valencia Drive	89	2,454	31,450	7	0.66	1.41
	Valencia Drive to Commonwealth Avenue	90	1,513	31,450	1	0.15	1.41
	Commonwealth Avenue to Chapman Avenue	91	1,313	22,356	1	0.25	1.41
	Chapman Avenue to Berkeley Avenue	92	1,734	15,668	3	0.80	2.09
Madison Avenue	Placentia Avenue to East City Limits	93	536	5,471	1	2.47	1.8
Magnolia Avenue	South City Limits to Orangethorpe Avenue	94	3,963	48,048	8	0.30	1.68
	Orangethorpe Avenue to Valencia Drive	95	2,648	28,864	8	0.76	1.68
	Valencia Drive to Commonwealth Avenue	96	1,314	28,864	2	0.38	1.68
Malvern Avenue	West City Limits to Gilbert Street	97	1,840	28,782	4	0.55	1.41
	Gilbert Street to Bastanchury Road	98	2,920	32,408	5	0.38	1.41
	Bastanchury Road to Basque Avenue	99	2,183	23,590	7	0.98	1.68
	Basque Avenue to Euclid Avenue	100	2,649	21,327	5	0.64	1.68
	Euclid Avenue to Woods Avenue	101	1,494	23,454	0	0.00	1.8
Nutwood Avenue	State College Boulevard to Placentia Avenue	102	2,583	22,815	5	0.61	1.68
Orangefair Avenue	Harbor Boulevard to Lemon Street	103	1,327	5,408	1	1.01	2.09
Orangethorpe Avenue	West City Limits to Magnolia Avenue	104	1,522	21,833	1	0.22	1.25
	Magnolia Avenue to Gilbert Street	105	2,507	32,050	11	0.99	1.25
	Gilbert Street to Brookhurst Road	106	2,646	32,050	17	1.45	1.25
	Brookhurst Road to Basque Avenue	107	2,842	26,003	4	0.39	1.25
	Basque Avenue to Euclid Street	108	2,460	26,003	6	0.68	1.25
	Euclid Street to Richman Avenue	109	2,753	32,664	13	1.05	1.25
	Richman Avenue to Highland Avenue	110	1,330	32,664	3	0.50	1.25
	Highland Avenue to Harbor Boulevard	111	1,335	33,235	12	1.96	1.25
	Harbor Boulevard to Lemon Street	112	1,332	38,805	11	1.54	1.68
	Raymond Avenue to Acacia Avenue	113	2,637	30,881	7	0.62	1.68
	Acacia Avenue to State College Boulevard	114	2,647	30,881	1	0.09	1.25
	State College Boulevard to East City Limits	115	1,902	28,454	4	0.54	1.25
Palm Drive	Placentia Avenue to Bradford Avenue	116	2,483	4,100	0	0.00	1.8
Palm Street	Imperial Highway to Lambert Road	117	2,625	9,800	0	0.00	1.8
Parks Road	Bastanchury Road to Rosecrans Avenue	118	3,422	4,755	1	0.45	1.8
	Rosecrans Avenue to Castlewood Drive	119	2,665	3,258	0	0.00	1.8
Placentia Avenue	Ruby Drive to Yorba Linda Boulevard	120	1,763	20,606	14	2.79	1.68
	Yorba Linda Boulevard to Rolling Hills Drive	121	2,965	19,437	0	0.00	1.68
	Rolling Hills Drive to North City Limits	122	1,269	9,939	2	1.15	1.68
Puente Street	300' S/O Hermosa Drive to Las Palmas Drive	123	898	1,409	0	0.00	1.8
	Las Palmas Drive to Imperial Highway	124	1,854	4,153	0	0.00	1.8
Raymond Avenue	Riverside Freeway (SR 91) to Orangethorpe Avenue	125	2,050	32,916	4	0.43	1.68
	Orangethorpe Avenue to Valencia Drive	126	2,620	23,289	8	0.95	1.68
	Valencia Drive to Commonwealth Avenue	127	1,357	23,289	2	0.46	1.68
	Commonwealth Avenue to Chapman Avenue	128	1,313	15,416	3	1.07	1.68

[1] Accident Data from 1/1/17 to 12/31/18

[2] Source: Caltrans District 12 - 2016

City of Fullerton
Table 1. 2019 Speed Zone Survey - Accident Survey Analysis

Street	Location	No.	Distance (feet)	2019 ADT	Accidents 2 yr Total[1]	Accident Rate	Expected Acc. Rate[2]
Rolling Hills Drive	Brea Boulevard to State College Boulevard	129	5,394	4,752	0	0.00	1.8
	Associated Road to Placentia Avenue	130	3,294	2,846	0	0.00	1.8
Rosecrans Avenue	West City Limits to Gilbert Street	131	5,738	19,407	1	0.07	1.41
	Gilbert Street to Parks Road	132	3,917	13,556	1	0.14	1.68
	Parks Road to Euclid Street	133	2,952	16,607	3	0.44	1.68
State College Boulevard	South City Limits to Valencia Drive	134	2,618	24,643	5	0.56	1.68
	Valencia Drive to Commonwealth Avenue	135	1,340	23,453	1	0.23	1.68
	Commonwealth Avenue to Chapman Avenue	136	2,257	24,651	2	0.26	1.68
	Chapman Avenue to Yorba Linda Boulevard	137	5,005	39,194	16	0.59	1.25
	Yorba Linda Boulevard to Bastanchury Road	138	3,683	24,091	6	0.49	1.25
	Bastanchury Road to North City Limits	139	4,016	23,216	3	0.23	1.41
Valencia Drive	West City Limits to Magnolia Ave	140	1,183	6,363	3	2.88	1.98
	Magnolia Avenue to Gilbert Street	141	2,500	5,610	3	1.55	1.98
	Gilbert Street to Brookhurst Road	142	2,642	5,610	3	1.46	1.98
	Brookhurst Road to Basque Avenue	143	2,790	7,255	2	0.72	2.09
	Basque Avenue to Euclid Street	144	2,514	7,255	1	0.40	2.09
	Euclid Street to Richman Avenue	145	2,714	6,730	4	1.58	2.09
	Richman Avenue to Highland Avenue	146	1,340	6,730	3	2.41	2.09
	Highland Avenue to Harbor Boulevard	147	1,329	4,147	6	7.87	2.09
	Harbor Boulevard to Lemon Street	148	1,343	4,724	1	1.14	2.09
	Raymond Avenue to State College Boulevard	149	5,288	2,008	2	1.36	2.09
Walnut Avenue	Richman Avenue to Highland Avenue	150	1,324	500	0	0.00	2.09
	Highland Avenue to Walnut Way	151	2,492	1,300	1	2.23	2.09
	Raymond Avenue to Acacia Avenue	152	2,738	2,000	0	0.00	2.09
	Acacia Avenue to State College Boulevard	153	2,643	2,000	2	2.74	2.09
Yorba Linda Boulevard	State College Boulevard to Associated Road	154	1,428	25,068	3	0.61	1.25
	Associated Road to Placentia Avenue	155	3,344	36,059	16	0.96	1.25
	Placentia Avenue to Sapphire Road	156	1,386	34,200	2	0.31	1.25
	Sapphire Road to East City Limits	157	1,323	33,422	6	0.98	1.25

[1] Accident Data from 1/1/17 to 12/31/18

[2] Source: Caltrans District 12 - 2016

Section 4.0 - Survey Findings and Recommendations

In accordance with the State-imposed speed limit establishment regulation, as defined by CVC Section 627 described in **Appendix B**, there are several factors that may be considered to justify setting the prima facie speed limits more than five miles per hour below the observed 85th percentile speed.

The factors to be considered are:

* Most recent accident record (mid-block)
* Roadway design speed
* Safe stopping sight distance
* Super-elevation
* Grades
* Shoulder condition
* Profile condition
* Intersection spacing offsets
* Commercial driveway characteristics (land use)
* Pedestrian traffic with and without sidewalks
* Pedestrian and Bicycle safety

The above factors for each roadway segment surveyed are listed in the Engineering and Speed Survey Summary sheets in **Appendix C (binder)**. The 85th percentile speed and the above factors were considered in verifying existing speed limits and recommending speed limit changes (increase or decrease). Additionally, discussions were held with City staff and the Fullerton Police Department in making decisions with respect to changing existing speed limits. This allowed for consideration of any special knowledge of the segment. The Speed Zone Survey – Accident Survey Analysis (Table 1) lists the total number of accidents, calculated accident rate, and the expected accident rate. **Table 2** shows the surveyed road segments with posted and recommended speed limits.

4.1 Speed Limit Signing

All California motorists are required to know the basic 15, 25, and 65 MPH speed laws and are tested on the subject when applying for a driver's license. The maximum speed limit on most California highways is 65 mph. You may drive 70 mph where posted. Unless otherwise posted, the maximum speed limit is 55 mph on two-lane undivided highways and for vehicles towing trailers. Consequently, speed limit signs covering these conditions need not be posted on City streets. However, although not required by law, speed limit signs for these situations may be posted on streets that have significant daily vehicular traffic volumes, a by-pass traffic situation, the continued violation of a residential 25 MPH speed zone, or with other applicable warrants.

It is normal policy to recommend the posting of speed limit signs only of streets that have been covered by the City speed limit ordinance or by warranted situations covered above.

Speed limit signs should be installed at about one-half mile intervals on the City streets which have been speed zoned. Signs are normally installed on the exit side of traffic signal controlled intersections and the more important intersections where there is high side street vehicle entry. It is important that motorists be given adequate information while not over signing, which tends to confuse the motorist.

Enforcement problems can occur when, (a) the highway is posted with inappropriate speed limit signs, (b) the highway is improperly or inadequately posted; or, (c) the highway is not posted nor covered by ordinance and therefore falls under the basic speed law. In any of these events, the result is a debatable validity that may be questioned in court cases where citations are issued and contested.

Table 2: Segment Spot Speed Survey 2019

Street	No	Limits	Direction	Date	10-Mile Pace (mph)	% in 10-Mile Pace	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	Recommended Speed Limit (mph)	Comments
Acacia Avenue	1	South City Limits to Orangethorpe Avenue	S/N	10/10/2019	31-40	74	35	40	40	40	No Change, 35 mph in Anaheim
	2	Orangethorpe Avenue to Valencia Drive	S/N	10/10/2019	35-44	64	40	47	40	40	No change, 85th, Bike Lanes, Railroad Track, Continuity of Speed
	3	Valencia Drive to Commonwealth Avenue	S/N	12/3/2019	36-45	76	39	43	35	35	No Change, 85th, Bike Lanes, Limited Sight Distance, Railroad Track
	4	Commonwealth Avenue to Chapman Avenue	S/N	10/10/2019	31-40	77	35	39	35	35*	No Change
Artesia Avenue	5	West City Limits to Gilbert Street	E/W	10/17/2019	37-46	73	41	46	45	45	No Change
Associated Road	6	Yorba Linda Boulevard to Bastanchury Road	S/N	10/28/2019	32-41	79	37	42	40	40	No Change
	7	Bastanchury Road to Rolling Hills Drive	S/N	10/28/2019	42-51	75	46	51	45	45	No Change, 85th, Bike Lanes, Pedestrian Activity, Regional Park
	8	Rolling Hills Road to North City Limits	S/N	10/28/2019	42-51	70	46	51	45	45	No Change, 85th, Bike Lanes, Pedestrian Activity, Regional Park
Bastanchury Road	9	Malvern Avenue to Parks Road	S/N	10/16/2019	43-52	64	47	53	50	50	No Change
	10	Parks Road to Euclid Street	S/N	10/16/2019	44-53	60	47	54	50	50	No Change
	11	Euclid Street to Morelia Avenue	E/W	10/16/2019	44-53	69	48	53	50	50	No Change
	12	Morelia Avenue to Harbor Boulevard	E/W	10/16/2019	36-45	66	41	47	40	40	No Change, 85th, Multiple Driveways, Curvature, Equestrian Trail
	13	Harbor Boulevard to Fairway Isles Drive	E/W	10/16/2019	42-51	72	46	51	50	50	No Change
	14	Fairway Isles Drive to Brea Boulevard	E/W	10/16/2019	42-51	71	47	52	50	50	No Change, Continuity of Speed
	15	Brea Boulevard to State College Boulevard	E/W	10/8/2019	45-54	64	50	56	50	50	No Change, Continuity of Speed, Park
	16	State College Boulevard to Associated Road	E/W	10/16/2019	42-51	64	46	53	50	50	No Change
	17	Associated Road to East City Limits	E/W	10/16/2019	42-51	74	46	51	45	45	No Change, 45 mph in Placentia
Berkeley Avenue	18	Chapman Avenue to Hornet Way	S/N	10/15/2019	35-44	76	38	43	35	35*	No Change, Continuity of Speed, Bike Lanes, School
	19	Hornet Way to Lemon Street	E/W	10/15/2019	31-40	89	34	38	35	35*	No Change, High Collision Rate
	20	Lemon Street to Harbor Boulevard	E/W	10/15/2019	32-41	87	37	40	35	35*	No Change, Continuity of Speed, Bike Lanes, School
	21	Harbor Boulevard to West Valley View Drive	E/W	10/15/2019	30-39	81	34	39	35	35	No Change, Bike Lanes, Courthouse
Bradford Avenue	22	South City Limits to Yorba Linda Boulevard	S/N	10/29/2019	31-40	77	35	39	35	35	No Change
Brea Boulevard	23	Harbor Boulevard to Lemon Street	S/N	10/9/2019	39-48	76	42	47	45	45	No Change
	24	Lemon Street to Bastanchury Road	S/N	10/9/2019	42-51	77	46	50	45	45	No Change, Continuity of Speed
	25	Bastanchury Road to North City Limits	S/N	10/9/2019	37-46	79	41	45	40	40	No Change, Continuity of Speed, 40 mph in Brea
Brookhurst Road	26	Riverside Freeway (SR 91) to Orangethorpe Avenue	S/N	10/14/2019	33-42	75	38	43	35	**40***	**INCREASE**, 85th, 35 mph in Anaheim
	27	Orangethorpe Avenue to Valencia Drive	S/N	10/14/2019	36-45	66	39	45	40	40	No Change, Continuity of Speed
	28	Valencia Drive to Commonwealth Avenue	S/N	10/14/2019	33-42	80	38	42	40	40	No Change
Castlewood Avenue	29	Gilbert Avenue to Parks Road	E/W	10/14/2019	31-40	88	36	39	35	35	No Change
Chapman Avenue	30	Woods Avenue to Highland Avenue	E/W	10/21/2019	36-45	73	40	46	40	40	No Change, Continuity of Speed, Horizontal Curve
	31	Highland Avenue to Harbor Boulevard	E/W	10/21/2019	34-43	78	38	43	40	40	No Change
	32	Harbor Boulevard to Berkeley Avenue	E/W	10/25/2019	28-37	82	32	36	30	30*	No Change, 85th, Limited Sight Distance, Multiple Driveways

[1] Accident Data from 1/1/2017 to 12/31/2018

[2] Source: Caltrans District 12

*Indicates School Area

Table 2: Segment Spot Speed Survey 2019

Street	No	Limits	Direction	Date	10-Mile Pace (mph)	% in 10-Mile Pace	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	Recommended Speed Limit (mph)	Comments
Chapman Ave Cont.	33	Berkeley Avenue to Raymond Avenue	E/W	10/8/2019	32-41	65	39	45	40	40*	No Change, Ped Activity, School
	34	Raymond Avenue to Acacia Avenue	E/W	10/25/2019	36-45	77	41	45	40	40*	No Change, School
	35	Acacia Avenue to State College Boulevard	E/W	10/25/2019	37-46	72	40	45	40	40*	No Change, Continuity of Speed, School
	36	State College Boulevard to Commonwealth Avenue	E/W	10/25/2019	35-44	76	39	44	40	40	No Change
	37	Commonwealth Avenue to East City Limits	E/W	10/28/2019	34-43	73	37	42	40	40	No Change, 35 mph in Placentia
Commonwealth Avenue	38	Dale Street to Magnolia Avenue	E/W	10/17/2019	38-47	71	42	47	40	40	No Change, 85th, 40 mph in Buena Park, Airport, Pedestrian Activity, Bike Route
	39	Magnolia Avenue to Gilbert Street	E/W	10/14/2019	37-46	71	40	46	40	40	No Change, 85th, School, Bike Route
	40	Gilbert Street to Brookhurst Road	E/W	10/17/2019	35-44	64	41	47	40	40	No Change, 85th, Multiple Driveways, Bike Route
	41	Brookhurst Road to Basque Avenue	E/W	10/17/2019	38-47	69	43	48	40	40	No Change, 85th, Limited Sight Distance, Pedestrian Activity, Bike Route
	42	Basque Avenue to Euclid Street	E/W	10/17/2019	36-45	80	40	44	40	40	No Change
	43	Euclid Street to Richman Avenue	E/W	10/18/2019	34-43	83	38	42	35	35	No Change, 85th
	44	Richman Avenue to Harbor Boulevard	E/W	10/18/2019	34-43	83	37	38	35	35	No Change, Parking Downtown, Driveways
	45	Harbor Boulevard to Lemon Street	E/W	10/17/2019	28-37	75	33	38	30	30	No Change, 85th, Heavy On-Street Parking, Bike Route, Downtown Business
	46	Lemon Street to Raymond Avenue	E/W	10/17/2019	32-41	83	38	41	40	40	No Change, Ped Activity, Driveways
	47	Raymond Avenue to Acacia Avenue	E/W	10/17/2019	37-46	79	41	46	40	40	No Change, Continuity of Speed
	48	Acacia Avenue to State College Boulevard	E/W	10/17/2019	38-47	69	40	45	40	40*	No Change, Continuity of Speed
	49	State College Boulevard to Chapman Avenue	S/N	10/17/2019	33-42	93	36	39	40	**35**	**DECREASE**, 85th, Bike Lanes
	50	Chapman Avenue to Nutwood Avenue	S/N	10/17/2019	28-37	80	34	37	30	**35**	**INCREASE**, 85th, Bike Lanes
Coyote Hills Drive	51	Gilbert Street to Castlewood Drive	S/N	12/5/2019	31-40	84	35	39	35	35	No Change, Park, Residential
Dorothy Lane	52	Hornet Way to Longview Drive	E/W	12/5/2019	27-36	83	31	34	30	30	No Change
	53	Longview Drive to Raymond Avenue	E/W	10/15/2019	28-37	82	33	37	35	35	No Change
	54	Raymond Avenue to Acacia Avenue	E/W	10/15/2019	30-39	73	35	39	35	35*	No Change
	55	Acacia Avenue to Victoria Drive	E/W	10/15/2019	28-37	92	32	35	35	35*	No Change
	56	Victoria Drive to State College Boulevard	E/W	10/15/2019	29-38	77	33	38	35	35*	No Change
Euclid Street	57	South City Limits to Orangethorpe Avenue	S/N	10/1/2019	29-38	79	34	38	35	35	No Change
	58	Orangethorpe Avenue to Malvern Avenue	S/N	10/1/2019	29-38	75	35	39	35	35*	No Change, Continuity of Speed
	59	Malvern Avenue to Valley View Drive	S/N	10/1/2019	33-42	79	37	42	35	35	No Change, Sight Distance, Vertical Curve
	60	Valley View Drive to Valencia Mesa Drive	S/N	10/30/2019	39-48	76	44	48	40	40	No Change, 85th, Vertical Curve
	61	Valencia Mesa Dr to Rosecrans Avenue	S/N	10/3/2019	33-42	76	37	43	40	40	No Change, 85th, Continuity of Speed
	62	Rosecrans Avenue to North City Limits	S/N	10/3/2019	44-53	67	49	54	50	50	No Change, Continuity of Speed, 45 mph in La Habra
Fender Avenue	63	State College Boulevard to Placentia Avenue	E/W	1/7/2020	32-41	58	34	41	25	**35**	**INCREASE**, Commercial/Industrial, Multiple Driveways, Trucks
Gilbert Street	64	South City Limits to Orangethorpe Avenue	S/N	12/3/2019	25-34	68	28	34	30	30	No Change, Multiple Driveways, 25 mph in Buena Park
	65	Orangethorpe Avenue to Commonwealth Avenue	S/N	10/7/2019	28-37	81	31	35	30	30*	No Change, Residential, Continuity of Speed
	66	Commonwealth Avenue to Malvern Avenue	S/N	10/7/2019	33-42	71	37	44	40	40	No Change, Driveways
	67	Malvern Avenue to Rosecrans Avenue	S/N	10/7/2019	41-50	68	46	52	45	**50**	**INCREASE**, 85th
	68	Rosecrans Avenue to Castlewood Drive	S/N	10/7/2019	44-53	74	47	53	45	**50**	**INCREASE**, 85th
	69	Castlewood Drive to North City Limits	S/N	10/7/2019	43-52	68	48	53	45	**50**	**INCREASE**, 85th, 45 mph in La Habra

[1] Accident Data from 1/1/2017 to 12/31/2018

[2] Source: Caltrans District 12

*Indicates School Area

Table 2: Segment Spot Speed Survey 2019

Street	No	Limits	Direction	Date	10-Mile Pace (mph)	% in 10-Mile Pace	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	Recommended Speed Limit (mph)	Comments
Harbor Boulevard	70	South City Limits to Orangethorpe Avenue	S/N	10/1/2019	34-43	78	38	42	40	40	No Change
	71	Orangethorpe Avenue to Valencia Drive	S/N	10/2/2019	32-41	77	38	42	40	40	No Change
	72	Valencia Drive to Commonwealth Avenue	S/N	10/2/2019	32-41	74	36	41	35	35	No Change, Limited Sight Distance, Pedestrian Activity, Driveways, Continuity of Speed
	73	Chapman Avenue to Berkeley Avenue	S/N	9/27/2019	32-41	85	34	38	35	35	No Change, Multiple Driveways
	74	Berkeley Avenue to W. Valley View Dr / Brea Blvd	S/N	9/27/2019	31-40	76	35	38	35	35	No Change
	75	W. Valley View Dr / Brea Blvd to Valencia Mesa Dr	S/N	12/5/2019	44-53	70	49	53	50	50	No Change, Bike Lane, Speed Differential 15 mph
	76	Valencia Mesa Drive to Bastanchury Road	S/N	10/2/2019	34-43	69	39	45	45	45	No Change
	77	Bastanchury Road to Hermosa Drive	S/N	10/2/2019	44-53	67	49	54	50	50	No Change
	78	Hermosa Drive to Imperial Highway	S/N	10/2/2019	38-47	73	42	48	45	45	No Change
	79	Imperial Highway to Lambert Road	S/N	10/2/2019	39-48	66	42	49	45	45	No Change, 45 mph in La Habra
Highland Avenue	80	Orangethorpe Avenue to Valencia Drive	S/N	10/18/2019	29-38	77	33	38	30	30*	No Change, 85th, Bike Lane, Pedestrian Activity, Multiple Driveways
	81	Valencia Drive to Commonwealth Avenue	S/N	10/18/2019	28-37	88	32	36	30	30	No Change, 85th, Pedestrian Activity, Bike Lane
	82	Commonwealth Avenue to Chapman Avenue	S/N	10/18/2019	20-29	86	24	27	25	25	No Change, Bike Lane
Hornet Way	83	Berkeley Avenue to Dorothy Lane	S/N	10/15/2019	20-29	87	25	28	25	25	No Change
Kimberly Avenue	84	Raymond Avenue to State College Boulevard	E/W	10/10/2019	32-41	61	36	44	45	45	No Change
	85	State College Boulevard to East City Limits	E/W	10/10/2019	34-43	61	38	44	45	45	No Change
Kraemer Boulevard	86	South City Limits to North City Limits	S/N	10/29/2019	35-44	80	39	44	45	45	No Change, 45 mph in Brea
Lambert Road	87	Harbor Boulevard to Palm Street	E/W	10/29/2019	38-47	77	43	47	45	45	No Change, 40 mph in La Habra
Lemon Street	88	South City Limits to Orangethorpe Avenue	S/N	10/7/2019	32-41	78	35	39	40	40	No Change, 40 mph in Anaheim
	89	Orangethorpe Avenue to Valencia Drive	S/N	10/7/2019	35-44	75	40	45	40	40*	No Change, Continuity of Speed
	90	Valencia Drive to Commonwealth Avenue	S/N	10/7/2019	32-41	76	37	41	40	40	No Change
	91	Commonwealth Avenue to Chapman Avenue	S/N	10/7/2019	30-39	80	33	38	35	35	No Change
	92	Chapman Avenue to Berkeley Avenue	S/N	10/4/2019	30-39	77	34	39	35	35*	No Change, Heavy Pedestrian Activity
Madison Avenue	93	Placentia Avenue to East City Limits	E/W	10/29/2019	32-41	76	35	41	35	35*	No Change, 35 mph in Placentia, Residential
Magnolia Avenue	94	South City Limits to Orangethorpe Avenue	S/N	10/14/2019	30-39	65	34	42	40	40	No Change, 40 mph in Anaheim
	95	Orangethorpe Avenue to Valencia Drive	S/N	10/14/2019	33-42	70	38	44	40	40*	No Change
	96	Valencia Drive to Commonwealth Avenue	S/N	10/17/2019	35-44	73	38	44	40	40	No Change, 85th
Malvern Avenue	97	West City Limits to Gilbert Street	E/W	10/21/2019	44-53	74	46	52	50	50	No Change
	98	Gilbert Street to Bastanchury Road	E/W	10/21/2019	38-47	75	42	48	45	45	No Change
	99	Bastanchury Road to Basque Avenue	E/W	10/21/2019	39-48	67	45	50	45	45*	No Change, Continuity of Speed, School
	100	Basque Avenue to Euclid Street	E/W	10/21/2019	39-48	74	43	49	45	45	No Change, Multiple Driveways
	101	Euclid Street to Woods Avenue	E/W	10/21/2019	36-45	80	41	45	40	40	40 mph on Chapman
Nutwood Avenue	102	State College Boulevard to Placentia Avenue	E/W	10/4/2019	31-40	75	36	41	35	35	No Change, Heavy Bicycle and Pedestrian Activity, CSUF
Orangefair Avenue	103	Harbor Boulevard to Lemon Street	E/W	10/7/2019	28-37	79	32	36	40	40	No Change, Heavy Pedestrian Activity
Orangethorpe Avenue	104	West City Limits to Magnolia Avenue	E/W	10/23/2019	40-49	64	44	50	45	45	No Change, 45 mph in Buena Park, Continuity of Speed
	105	Magnolia Avenue to Gilbert Street	E/W	10/23/2019	37-46	69	42	47	45	45	No Change
	106	Gilbert Street to Brookhurst Road	E/W	10/23/2019	39-48	73	44	49	45	45	No Change
	107	Brookhurst Road to Basque Avenue	E/W	10/23/2019	39-48	64	44	51	45	45*	No Change, Continuity of Speed, School

[1] Accident Data from 1/1/2017 to 12/31/2018

[2] Source: Caltrans District 12

*Indicates School Area

Table 2: Segment Spot Speed Survey 2019

Street	No	Limits	Direction	Date	10-Mile Pace (mph)	% in 10-Mile Pace	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	Recommended Speed Limit (mph)	Comments
Orangethorpe Ave Cont.	108	Basque Avenue to Euclid Street	E/W	10/23/2019	39-48	69	44	49	45	45	No Change
	109	Euclid Street to Richman Avenue	E/W	10/23/2019	38-47	71	43	49	45	45	No Change
	110	Richman Avenue to Highland Avenue	E/W	10/23/2019	39-48	67	42	47	45	45	No Change
	111	Highland Avenue to Harbor Boulevard	E/W	10/24/2019	34-43	67	39	45	40	40	No Change, 85th
	112	Harbor Boulevard to Lemon Street	E/W	10/24/2019	32-41	74	36	40	40	40	No change, 40 mph in Anaheim
	113	Raymond Avenue to Acacia Avenue	E/W	10/1/2019	38-47	69	43	49	45	45	No Change
	114	Acacia Avenue to State College Boulevard	E/W	10/24/2019	40-49	68	44	49	45	45	No Change
	115	State College Boulevard to East City Limits	E/W	10/24/2019	37-46	70	40	47	45	45	No Change, 40 mph in Placentia
Palm Drive	116	Placentia Avenue to Bradford Avenue	E/W	10/29/2019	28-37	75	34	39	35	35	No Change
Palm Street	117	Imperial Highway to Lambert Road	S/N	10/29/2019	36-45	59	40	48	45	45	No Change, 35 mph in La Habra
Parks Road	118	Bastanchury Road to Rosecrans Avenue	S/N	10/14/2019	32-41	74	38	42	40	40*	No Change
	119	Rosecrans Avenue to Castlewood Drive	S/N	10/14/2019	32-41	65	39	45	45	45	No Change
Placentia Avenue	120	Ruby Drive to Yorba Linda Boulevard	S/N	10/10/2019	35-44	77	39	44	40	40	No Change, 40 mph in Placentia
	121	Yorba Linda Boulevard to Rolling Hills Drive	S/N	10/10/2019	33-42	73	39	44	40	40	No Change
	122	Rolling Hills Drive to North City Limits	S/N	10/11/2019	38-47	76	42	47	40	**45**	**INCREASE**, 85th, Bike Lane
Puente Street	123	300' S/O Hermosa Drive to Las Palmas Drive	S/N	10/29/2019	28-37	78	31	36	25	**30**	**INCREASE**, 85th, multiple driveways, parked cars, 35 mph in Brea
	124	Las Palmas Drive to Imperial Highway	S/N	10/29/2019	30-39	76	34	38	25	**30**	**INCREASE**, 85th, multiple driveways, parked cars, 35 mph in Brea
Raymond Avenue	125	Riverside Freeway (SR 91) to Orangethorpe Avenue	S/N	10/10/2019	33-42	70	38	44	40	40	No Change
	126	Orangethorpe Avenue to Valencia Drive	S/N	10/10/2019	34-43	72	38	43	40	40	No Change, Continuity of Speed
	127	Valencia Drive to Commonwealth Avenue	S/N	10/9/2019	37-46	68	42	48	40	40	No Change, 85th, Multiple Horizontal Curves
	128	Commonwealth Avenue to Chapman Avenue	S/N	10/9/2019	29-38	84	33	37	35	35	No Change, Multiple Driveways
Rolling Hills Drive	129	Brea Boulevard to State College Boulevard	E/W	10/29/2019	30-39	89	34	37	35	35*	No Change, Multiple Driveways, Bike Lane, School
	130	Associated Road to Placentia Avenue	E/W	10/30/2019	39-48	63	44	50	45	45	No Change, Bike Lane, Park
Rosecrans Avenue	131	West City Limits to Gilbert Street	E/W	10/21/2019	44-53	61	50	55	50	50	No Change, 50 mph in Buena Park
	132	Gilbert Street to Parks Road	E/W	10/21/2019	42-51	74	46	50	45	45*	No Change, Continuity of Speed, School
	133	Parks Road to Euclid Street	E/W	10/21/2019	39-48	73	44	49	45	45*	No Change
State College Boulevard	134	South City Limits to Valencia Drive	S/N	10/4/2019	37-46	75	41	46	40	**45**	**INCREASE**, 40 mph in Anaheim
	135	Valencia Drive to Commonwealth Avenue	S/N	10/4/2019	34-43	68	39	45	40	**45**	**INCREASE**, 85th
	136	Commonwealth Avenue to Chapman Avenue	S/N	10/4/2019	36-45	72	39	45	40	**45**	**INCREASE**, 85th
	137	Chapman Avenue to Yorba Linda Boulevard	S/N	10/4/2019	34-43	75	39	44	40	40*	No Change
	138	Yorba Linda Boulevard to Bastanchury Road	S/N	10/3/2019	43-52	73	47	52	45	45	No Change, Continuity of Speed, Horizontal Curve
	139	Bastanchury Road to North City Limits	S/N	10/3/2019	40-49	75	44	49	45	45	No Change, Continuity of Speed, 45 mph in Brea

[1] Accident Data from 1/1/2017 to 12/31/2018

[2] Source: Caltrans District 12

*Indicates School Area

Table 2: Segment Spot Speed Survey 2019

Street	No	Limits	Direction	Date	10-Mile Pace (mph)	% in 10-Mile Pace	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	Recommended Speed Limit (mph)	Comments
Valencia Drive	140	West City Limits to Magnolia Avenue	E/W	12/17/2019	34-43	72	37	42	40	40	No Change, 35 mph in Buena Park
	141	Magnolia Avenue to Gilbert Street	E/W	12/17/2019	31-40	82	34	39	35	35*	No Change
	142	Gilbert Street to Brookhurst Road	E/W	10/22/2019	34-43	78	39	44	35	35*	No Change, Continuity of Speed, Multiple Driveways, School
	143	Brookhurst Road to Basque Avenue	E/W	10/22/2019	30-39	70	36	42	35	35*	No Change, Continuity of Speed, Multiple Driveways, School
	144	Basque Avenue to Euclid Street	E/W	10/22/2019	34-43	81	38	43	35	35	No Change, Continuity of Speed, Multiple Driveways
	145	Euclid Street to Richman Avenue	E/W	10/22/2019	29-38	74	33	38	35	35	No Change
	146	Richman Avenue to Highland Avenue	E/W	10/22/2019	28-37	78	31	35	35	35	No Change
	147	Highland Avenue to Harbor Boulevard	E/W	10/22/2019	19-28	83	25	28	25	25	No Change, High Collision Rate
	148	Harbor Boulevard to Lemon Street	E/W	10/22/2019	19-28	81	24	28	25	25*	No Change
	149	Raymond Avenue to State College Boulevard	E/W	10/22/2019	28-37	51	34	40	40	40	No Change
Walnut Avenue	150	Richman Avenue to Highland Avenue	E/W	10/28/2019	26-35	72	31	36	35	35	No Change
	151	Highland Avenue to Walnut Way	E/W	10/28/2019	24-33	69	28	34	30	30	No Change
	152	Raymond Avenue to Acacia Avenue	E/W	10/28/2019	29-38	59	35	44	35	**40**	**INCREASE**, 85th
	153	Acacia Avenue to State College Boulevard	E/W	10/28/2019	28-37	60	33	41	35	35*	No Change, School, Multiple Driveways, No Sidewalks
Yorba Linda Boulevard	154	State College Boulevard to Associated Road	E/W	10/8/2019	35-44	81	39	43	40	40*	No Change
	155	Associated Road to Placentia Avenue	E/W	10/8/2019	35-44	69	40	46	40	40	No Change, 85th, Continuity of Speed
	156	Placentia Avenue to Sapphire Road	E/W	10/8/2019	35-44	71	39	45	40	40	No Change, 85th
	157	Sapphire Road to East City Limits	E/W	10/8/2019	36-45	70	40	45	40	40	No Change, 85th, 40 mph in Placentia

[1] Accident Data from 1/1/2017 to 12/31/2018

[2] Source: Caltrans District 12

*Indicates School Area

Section 5.0 - SUMMARY AND CONCLUSIONS

1. The radar survey and the raw data collection were conducted per CVC Section 627.

2. A total of 157 sections on the City's arterial, secondary arterial, and collector roadway network were surveyed.

3. The accident rate (Table 1) for the majority of the street segments is well below the expected accident rate obtained from the City of Fullerton for various types of roadway facilities within Orange County area.

- **Brookhurst Road:** Riverside Freeway (SR 91) to Orangethorpe Avenue, it is recommended that the existing posted speed limit of 35 mph be increased to 40 mph based on the 85th percentile speed and low collision rate.

- **Commonwealth Avenue:**
  - State College Boulevard to Chapman Avenue, it is recommended that the existing posted speed limit of 40 mph be decreased to 35 mph based on the 85th percentile speed.
  - Chapman Avenue to Nutwood Avenue, it is recommended that the existing posted speed limit of 30 mph be increased to 35 mph based on the 85th percentile speed and low collision rate.

- **Fender Avenue:** State College Boulevard to Placentia Avenue, it is recommended that the speed limit be established at 35 mph based on the 85th percentile speed and low collision rate.

- **Gilbert Street:**
  - Malvern Avenue to Rosecrans Avenue, it is recommended that the existing posted speed limit of 45 mph be increased to 50 mph based on the 85th percentile speed and low collision rate.
  - Rosecrans Avenue to Castlewood Drive, it is recommended that the existing posted speed limit of 45 mph be increased to 50 mph based on the 85th percentile speed and low collision rate.
  - Castlewood Drive to North City Limits, it is recommended that the existing posted speed limit of 45 mph be increased to 50 mph based on the 85th percentile speed and low collision rate.

- **Placentia Avenue:** Rolling Hills Drive to North City Limits, it is recommended that the posted speed limit of 40 mph be increased to 45 mph based on the 85th percentile speed and low collision rate.

- **Puente Street:**
  - 300 feet south of Hermosa Drive to Las Palmas Drive, it is recommended that the existing posted speed limit of 25 mph be increased to 30 mph based on the 85th percentile speed and low collision rate.
  - Las Palmas Drive to Imperial Highway, it is recommended that the existing posted speed limit of 25 mph be increased to 30 mph based on the 85th percentile speed and low collision rate.

- **State College Boulevard:**
  - South City Limits to Valencia Drive, it is recommended that the posted speed limit of 40 mph be increased to 45 mph based on the 85th percentile speed and low collision rate.
  - Valencia Drive to Commonwealth Avenue, it is recommended that the existing posted speed limit of 40 mph be increased to 45 mph based on the 85th percentile speed and low collision rate.
  - Commonwealth Avenue to Chapman Avenue, it is recommended that the existing posted speed limit of 40 mph be increased to 45 mph based on the 85th percentile speed and low collision rate.

- **Walnut Avenue:** Raymond Avenue to Acacia Avenue, it is recommended that the existing posted speed limit of 35 mph be increased to 40 mph based on the 85th percentile speed and low collision rate.