File \#: 19-0184

## AGENDA REPORT REQUEST FOR CITY COUNCIL ACTION

DATE: 3/6/2019

TO: Honorable Mayor and City Council Members
FROM: Public Works Department

## SUBJECT:

City Council consideration of Ordinance No. 3292, first reading of an Ordinance of the City of Corona, California amending Ordinance Numbers 3113, 3146, 3168, 3203, and 3273 to update the prima facie speed limits on certain street segments in the City of Corona.

## RECOMMENDED ACTION:

That the City Council introduce by title only and waive full reading for consideration of Ordinance No. 3292, first reading of an Ordinance of the City of Corona, California amending Ordinance Numbers $3113,3146,3168,3203$, and 3273 to update the prima facie speed limits on certain street segments in the City of Corona.

## ANALYSIS:

The California Vehicle Code, Section 40802 requires that Engineering and Traffic Surveys be performed at least once every seven years on street segments whose prima facie speed limits are being enforced by radar or other electronic devices used to measure the speed of moving vehicles.

To meet this State requirement, the City updates its Speed Zone Surveys on a rotating basis, which results in all required road segments being updated every seven years. According to the seven-year schedule, 44 roadway segments listed on Exhibit "A" were surveyed and updated in 2018. The recommended speed limits were determined in consultation with the Corona Police Department, and provide enforceability and support by the courts, promote consistency and uniformity between streets of similar design; provide for a safe and orderly movement of vehicular traffic; and are reasonable and safe for those street segments.

As noted on Exhibit "A," 44 road segments were surveyed in the engineering study. The existing speed limit posted for all the road segments will remain unchanged.

## COMMITTEE ACTION:

File \#: 19-0184
Not applicable.

## STRATEGIC PLAN:

This item supports the City's Strategic Plan Goal 5: Improve Circulation and Reduce Traffic; Objective b. Explore technological approaches to improve traffic. The recommended action supports this goal by facilitating the use of radar and electronic devices in the measurement and enforcement of traffic speeds on City streets thereby reducing speed related accidents; and improving traffic safety and circulation.

## FISCAL IMPACT:

Since no street segments are recommended for a speed limit change and all existing speed limit signs will remain existing, there is no fiscal impact associated with the approval of this Ordinance.

## ENVIRONMENTAL ANALYSIS:

This action is exempt pursuant to Section $15061(\mathrm{~b})(3)$ of the Guidelines for the California Environmental Quality Act (CEQA), which states that a project is exempt from CEQA if the activity is covered by the general rule that CEQA applies only to projects that have the potential for causing significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. The action merely reaffirms the existing speed limits on certain street segments, and there is no possibility that approving this amendment to City ordinances will have a significant effect on the environment. Therefore, no environmental analysis is required.

PREPARED BY: ROSALVA N. URENO, P.E., T.E. SENIOR CIVIL ENGINEER
REVIEWED BY: NELSON D. NELSON, P.E., PUBLIC WORKS DIRECTOR

## REVIEWED BY: GEORGE JOHNSTONE, CHIEF OF POLICE

REVIEWED BY: KERRY D. EDEN, ASSISTANT CITY MANAGER/ADMINISTRATIVE SERVICES DIRECTOR

## SUBMITTED BY: MICHELE NISSEN, ACTING CITY MANAGER

## Attachments:

1. Exhibit "A" - Proposed Speed Limits
2. Ordinance No. 3292
3. Technical Report

## EXHIBIT "A" <br> PROPOSED SPEED LIMITS

| STREET | LIMITS | SPEED |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | EXISTING | $\begin{aligned} & \text { CRITICAL }^{1} \\ & \text { (85\%-TILE) } \end{aligned}$ | PROPOSED |
| Belle Avenue | Third to Olive | 25 | 28.7 | 25 |
| Crestridge Drive | Green River to Prado | 30 | 32.5 | 30 |
| Harrison Street | Main to Parkridge | 35 | 39.8 | 35 |
| Kirkwood Drive | Via Del Rio to Ontario | 30 | 32.7 | 30 |
| Lincoln Avenue | Parkridge to Rincon | 40 | 47.4 | 40 |
|  | Rincon to Pomona | 40 | 41.4 | 40 |
|  | Pomona to Olive | 35 | 42.3 | 35 |
|  | Olive to Ontario | 40 | 44.0 | 40 |
|  | Ontario to Foothill | 45 | 50.5 | 45 |
|  | Foothill to Mountain Gate | 45 | 50.7 | 45 |
| Main Street | Upper to Mountain Gate | 40 | 43.6 | 40 |
|  | Mountain Gate to Chase | 40 | 42.8 | 40 |
|  | Chase to Ontario | 40 | 45.4 | 40 |
|  | Ontario to S. Grand | 40 | 43.2 | 40 |
|  | S. Grand to Eighth | 40 | 42.3 | 40 |
|  | Eighth to Third | 35 | 36.5 | 35 |
|  | Third to N. Grand | 35 | 38.9 | 35 |
|  | N. Grand to City Limits | 40 | 43.0 | 40 |
| McKinley Street | Parkview to Promenade | 45 | 50.3 | 45 |
|  | Promenade to SR-91 | 35 | 41.5 | 35 |
|  | SR-91 to Magnolia | 35 | 38.0 | 35 |
| Ranch Vista Road | Chantel to McKinley | 35 | 37.3 | 35 |
| Richey Street | Mt. Humphries to Promenade | 30 | 35.6 | 30 |
| Rimpau Avenue | Sixth to Circle City | 30 | 31.3 | 30 |
|  | Circle City to Magnolia | 35 | 41.5 | 35 |
|  | Magnolia to Old Temescal | 35 | 38.9 | 35 |
|  | Old Temescal to Ontario | 40 | 44.7 | 40 |
|  | Ontario to Foothill | 45 | 49.2 | 45 |
|  | Foothill to Upper | 40 | 44.0 | 40 |
| Serfas Club Drive | Palisades to Green River | 40 | 43.2 | 40 |

## EXHIBIT "A" <br> PROPOSED SPEED LIMITS (CONTINUED)

| STREET | SPEED |  |  |  |
| :--- | :--- | :---: | :---: | :---: |
|  | LIMITS | EXISTING | CRITICAL <br> $(85 \%-$ IILE $)$ | PROPOSED |
|  | SR-91 to Lincoln | 35 | 41.6 | 35 |
|  | Lincoln to W. Grand | 35 | 39.5 | 35 |
|  | W. Grand to E. Grand | 35 | 41.9 | 35 |
|  | E. Grand to Rimpau | 40 | 43.2 | 40 |
|  | Rimpau to Promenade | 45 | 47.5 | 45 |
|  |  |  |  |  |
|  | Rincon to Railroad | 40 | 45.3 | 40 |
|  | Smith Avenue | 40 | 45.9 | 40 |
|  | Sixth to Border | 35 | 38.4 | 35 |
|  |  |  |  |  |
| Taylor Avenue | Olive to Ontario | 35 | 38.0 | 35 |
|  | Ontario to Montoya |  | 37.0 | 35 |
|  |  | 45 |  |  |
| Upper Drive | Mountain Gate to Main | 40 | 49.5 | 45 |
|  | Main to Rimpau | 45 | 43.0 | 40 |
|  | Rimpau to Lemon Grove |  |  | 45 |
|  |  | 35 | 41.5 | 35 |
| Via Del Rio | Kirkwood to Border |  |  |  |
|  |  |  |  |  |

## NOTES:

1. The CRITICAL SPEED, or 85th percentile speed, is defined as that speed at or below which 85 percent of the traffic is moving. From experience, traffic engineers have found that this is one of the most reliable factors in determining appropriate speed limits. Hence, the accepted practice, and one which has been used in this case, is to set the speed limit at the nearest 5 MPH increment to the critical speed. When this procedure is used, it not only conforms to that required by the State but also provides a strong base for law enforcement personnel to properly enforce speed limits.

## ORDINANCE NO. 3292

# AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA, AMENDING ORDINANCE NUMBERS 3113, 3146, 3168, 3203, AND 3273 TO UPDATE THE PRIMA FACIE SPEED LIMITS ON CERTAIN STREET SEGMENTS IN THE CITY OF CORONA 

WHEREAS, in accordance with California Vehicle Code Sections 22357 and 22358, local municipalities have the power to increase or decrease prima facie speed limits for local streets; and

WHEREAS, in accordance with California Vehicle Code Section 40802 and provisions of the California Manual on Uniform Traffic Control Devices (MUTCD), Engineering and Traffic Surveys must be performed on those local streets every seven (7) years when the use of radar or other electronic devices which measure the speed of moving objects are utilized to enforce the prima facie speed limits for those streets; and

WHEREAS, the City Council now desires to amend Ordinance Nos. 3113, 3146, 3168, 3203, and 3273 by approving a seven (7) year city-wide Engineering and Traffic Survey for some of the street segments governed by these Ordinances; and

WHEREAS, the results of the Engineering and Traffic Surveys conform to the requirements of the Vehicle Code; and

WHEREAS, the City's police officers have successfully completed a radar operator course approved and certified by the Commission on Police Officers Standards and Training, of not less than twenty four (24) hours on the use of police traffic radar; and

WHEREAS, a radar, laser, or other electronic device used to measure the speed of a vehicle meets the minimal operational standards of the National Traffic Safety Administration, and has been calibrated within three years prior to the date of the alleged violation by an independent certified laser or radar repair and testing or calibration facility; and

WHEREAS, City staff has concluded those speed limits set forth in Exhibit "A" attached hereto are justified for their associated street segments in that they are found to be most appropriate to facilitate the orderly movement of vehicular traffic and are reasonable and safe for those street segments.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CORONA, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1. That Ordinance Nos. 3113, 3146, 3168, 3203, and 3273 are hereby amended by adopting the prima facie speed limits for those street segments listed in Exhibit "A" attached hereto and incorporated herein by reference.

SECTION 2. The City Council of the City of Corona hereby declares:
A. That the action taken in Section 1 hereinabove is based on an Engineering and Traffic Survey conducted by the City.
B. The prima facie speed limits provided in Exhibit "A" attached hereto for their associated street segments are most appropriate to facilitate the orderly development of vehicular traffic and are reasonable and safe for those street segments.

SECTION 3. The Mayor shall sign this Ordinance, and the City Clerk shall attest thereto and shall within fifteen (15) days cause it, or a summary of it, to be published in the Sentinel Weekly News, a newspaper of general circulation published and circulated in the City of Corona. Thereupon and thereafter this Ordinance shall take effect and be in force according to law.

ADOPTED this $20^{\text {th }}$ day of March, 2019.

> Mayor of the City of Corona, California

## ATTEST:

City Clerk of the City of Corona, California

## CERTIFICATION

I, Sylvia Edwards, City Clerk of the City of Corona, California, do hereby certify that the foregoing Ordinance was regularly introduced at a regular meeting of the City Council of the City of Corona, California, duly held the $6^{\text {th }}$ day of March, 2019, and thereafter at an adjourned meeting thereof held on the $20^{\text {th }}$ day of March, 2019, it was duly passed and adopted by the following vote of the Council:

AYES:
NOES:
ABSENT:
ABSTAINED:

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Corona, California, this $20^{\text {th }}$ day of March, 2019.
[SEAL]

## EXHIBIT "A" <br> PROPOSED SPEED LIMITS

| STREET | LIMITS | SPEED |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | EXISTING | $\begin{aligned} & \text { CRITICAL }^{1} \\ & \text { (85\%-TILE) } \end{aligned}$ | PROPOSED |
| Belle Avenue | Third to Olive | 25 | 28.7 | 25 |
| Crestridge Drive | Green River to Prado | 30 | 32.5 | 30 |
| Harrison Street | Main to Parkridge | 35 | 39.8 | 35 |
| Kirkwood Drive | Via Del Rio to Ontario | 30 | 32.7 | 30 |
| Lincoln Avenue | Parkridge to Rincon | 40 | 47.4 | 40 |
|  | Rincon to Pomona | 40 | 41.4 | 40 |
|  | Pomona to Olive | 35 | 42.3 | 35 |
|  | Olive to Ontario | 40 | 44.0 | 40 |
|  | Ontario to Foothill | 45 | 50.5 | 45 |
|  | Foothill to Mountain Gate | 45 | 50.7 | 45 |
| Main Street | Upper to Mountain Gate | 40 | 43.6 | 40 |
|  | Mountain Gate to Chase | 40 | 42.8 | 40 |
|  | Chase to Ontario | 40 | 45.4 | 40 |
|  | Ontario to S. Grand | 40 | 43.2 | 40 |
|  | S. Grand to Eighth | 40 | 42.3 | 40 |
|  | Eighth to Third | 35 | 36.5 | 35 |
|  | Third to N. Grand | 35 | 38.9 | 35 |
|  | N. Grand to City Limits | 40 | 43.0 | 40 |
| McKinley Street | Parkview to Promenade | 45 | 50.3 | 45 |
|  | Promenade to SR-91 | 35 | 41.5 | 35 |
|  | SR-91 to Magnolia | 35 | 38.0 | 35 |
| Ranch Vista Road | Chantel to McKinley | 35 | 37.3 | 35 |
| Richey Street | Mt. Humphries to Promenade | 30 | 35.6 | 30 |
| Rimpau Avenue | Sixth to Circle City | 30 | 31.3 | 30 |
|  | Circle City to Magnolia | 35 | 41.5 | 35 |
|  | Magnolia to Old Temescal | 35 | 38.9 | 35 |
|  | Old Temescal to Ontario | 40 | 44.7 | 40 |
|  | Ontario to Foothill | 45 | 49.2 | 45 |
|  | Foothill to Upper | 40 | 44.0 | 40 |
| Serfas Club Drive | Palisades to Green River | 40 | 43.2 | 40 |

## EXHIBIT "A" <br> PROPOSED SPEED LIMITS (CONTINUED)

| STREET | SPEED |  |  |  |
| :--- | :--- | :---: | :---: | :---: |
|  | LIMITS | EXISTING | CRITICAL <br> $(85 \%-$ IILE $)$ | PROPOSED |
|  | SR-91 to Lincoln | 35 | 41.6 | 35 |
|  | Lincoln to W. Grand | 35 | 39.5 | 35 |
|  | W. Grand to E. Grand | 35 | 41.9 | 35 |
|  | E. Grand to Rimpau | 40 | 43.2 | 40 |
|  | Rimpau to Promenade | 45 | 47.5 | 45 |
|  |  |  |  |  |
|  | Rincon to Railroad | 40 | 45.3 | 40 |
|  | Smith Avenue | 40 | 45.9 | 40 |
|  | Sixth to Border | 35 | 38.4 | 35 |
|  |  |  |  |  |
| Taylor Avenue | Olive to Ontario | 35 | 38.0 | 35 |
|  | Ontario to Montoya |  | 37.0 | 35 |
|  |  | 45 |  |  |
| Upper Drive | Mountain Gate to Main | 40 | 49.5 | 45 |
|  | Main to Rimpau | 45 | 43.0 | 40 |
|  | Rimpau to Lemon Grove |  |  | 45 |
|  |  | 35 | 41.5 | 35 |
| Via Del Rio | Kirkwood to Border |  |  |  |
|  |  |  |  |  |

## NOTES:

1. The CRITICAL SPEED, or 85th percentile speed, is defined as that speed at or below which 85 percent of the traffic is moving. From experience, traffic engineers have found that this is one of the most reliable factors in determining appropriate speed limits. Hence, the accepted practice, and one which has been used in this case, is to set the speed limit at the nearest 5 MPH increment to the critical speed. When this procedure is used, it not only conforms to that required by the State but also provides a strong base for law enforcement personnel to properly enforce speed limits.

## CITY OF CORONA

Riverside County, California
Public Works Department


PREPARED BY:

CITY OF CORONA
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING
400 S. VICENTIA AVENUE, STE. 210
CORONA, CA 92882-2187
(951) 736-2266

## CERTIFICATION

I, Rosalva N. Ureno, do hereby certify that this Engineering and Traffic Survey for the City of Corona was performed under my supervision. I certify that I am experienced in performing surveys of this type and duly registered in the State of California as a professional Civil Engineer.


Rureno
Rosalva N. Ureno, P.E. No. 77433
Senior Engineer

## 2018 ENGINEERING AND TRAFFIC SURVEY FOR SPEED LIMITS

(SEE SECTION 3.3 FOR PROPOSED SPEED LIMITS)

## 1. INTRODUCTION

In accordance with procedures established by the State of California, this Engineering and Traffic Survey has been developed for the City of Corona as the basis for the establishment and enforcement of speed limits for selected streets within the City. The work herein was performed by the City to evaluate established speed limit sections to determine whether changes in pre-existing conditions have occurred which would require a modification to the speed limit.

The Traffic Engineering Division performs Engineering and Traffic Surveys for speed limits in accordance with the California Vehicle Code (CVC). Section 40802 of the CVC specifies the time periods within which speed surveys must be performed if the use of radar is to be employed to enforce speed limits. If such a survey is not performed within the required time frame, the new data and its use will constitute a speed trap. Hence, evidence using such data would not be admissible in court. CVC Section 40802(c)(2) defines a "speed trap" is either of the following:
(A) A section of a highway measured as to distance and with boundaries marked, designated or otherwise determined in order that the speed of a vehicle may be calculated by securing the time it takes the vehicle to travel the know distance.
(B) (i) A particular section of a highway with a prima facie speed limit that is provided by this code or by local ordinance under paragraph (1) of subdivision (b) of Section 22352, or established under Section 22354, 22357, 22358, or 22358.3, if that prima facie speed limit is not justified by an Engineering and Traffic Survey conducted within one of the following periods, prior to the date of the alleged violation, and enforcement of the speed limit involves the use of radar or other electronic devices that measure the speed of moving objects:
(I) Except as specified in subclause (II), seven years.
(II) If an Engineering and Traffic Surveys was conducted more than seven years prior to the date of the alleged violation, and a registered engineer evaluates the selection of the highway and determines that no significant changes in roadway or traffic conditions have occurred, including, but not limited to, changes in adjoin property or land use, roadway width, or traffic volume, 10 years.
(ii) This subparagraph does not apply to a local street, road, or school zone.

## 2. PROCEDURES

### 2.1 ESTABLISHMENT OF SPEED ZONES

The reason that speed limit areas, and their required postings, are established is to guard reasonable drivers from the unreasonable behavior of reckless, unreliable, or otherwise dangerous drivers. As with other similar laws, the identified speed limits are based on the consensus of the majority of those who drive the highway as to what speed is reasonable and safe. It is this type of information that is reflected in the analysis section of this report. Namely, posted speed limits reflect the speed that most people deem to be safe, as opposed to a minority of drivers who do not drive in a reasonable manner.

Speed zones are also established to advise of road conditions or hazards which may not be readily apparent to a reasonable driver. For this reason, a field review of related road/traffic variables is included, which considers the analytical and accident history of a roadway segment to help determine a safe and reasonable speed limit.

### 2.2 DATA COLLECTION PROCEDURES

Speed evaluation data was collected at 44 different roadway segments in the City of Corona. These streets, and the number of segments on each street are described as follows:

- Belle Avenue (1)
- Crestridge Drive (1)
- Harrison Street (1)
- Kirkwood Drive (1)
- Lincoln Avenue (6)
- Main Street (8)
- McKinley Street (3)
- Ranch Vista Road (1)
- Richey Street (1)
- Rimpau Avenue (6)
- Serfas Club Drive (1)
- Sixth Street (5)
- Smith Avenue (3)
- Taylor Avenue (2)
- Upper Drive (3)
- Via Del Rio (1)

As described in various traffic engineering documents, including information provided by the State of California, the selection of data collection locations for roadway segments on which radar data collection procedures were used involved considerations for the following:

1. Stop signs or traffic signal locations;
2. Visibility problems;
3. Traffic flow opportunities at or near intersections, major driveways, crosswalks, railroad crossings and unusual turning movements; and
4. Minimum influence from parked vehicles, bumps, dips, curves, or poor roadway conditions.

### 2.3 RADAR COLLECTION TIME-FRAMES

The hours of radar operations were restricted to off-peak periods (when possible) for heavily traveled streets, and to peak periods on lightly traveled streets. All speed surveys were conducted in fair weather.

The radar unit was mounted at the top of the front dash of an unmarked vehicle, with the meter-reading unit sustained inside the vehicle. The radar's unit calibration was checked periodically using a tuning fork.

The radar operator recorded the radar speed meter readings for each location on Radar Speed Survey Field Sheets, included in the Appendix Sections of this Report. In order for the sample to be representative of the actual traffic flow, a sample of at least 100 vehicles was taken in each survey. On low volume roads, where a total sample of 100 vehicles would result in an excessive time period, sampling was continued until a representative bell-shaped curve was attained. In no case did the sample contain less than 50 vehicles.

### 2.4 PREVAILING SPEEDS

The prevailing speeds are determined by speed zone surveys. The analysis of the prevailing speeds will provide important information about the existing traffic conditions. These are described in detail below.

- The CRITICAL SPEED, or $85^{\text {th }}$ percentile speed, is defined as the speed at or below which 85 percent of the traffic is moving. From experience, traffic engineers have found that this is one of the most reliable factors in determining appropriate speed limits. Hence, the accepted practice, and one which has been used in this case, is to set the speed limit at the nearest 5 MPH increment to the critical speed. When this procedure is used, it not only conforms to that required by Federal and State regulations, but also provides a strong base for law enforcement personnel to properly enforce speed limits.
- The 10 MPH PACE is the 10 MPH increment of speed where the largest number of recorded vehicles is contained. It is a measure of the dispersion of speeds within the sample surveyed. For this element, the accepted practice is to keep the recommended speed limit within the 10 MPH pace to the greatest extent possible, after considering the critical speed and any factors requiring a speed lower than the critical speed.
- The MEDIAN SPEED, or $50^{\text {th }}$ percentile speed, represents the mid-point value within the range of recorded speeds for a particular roadway section. In other words, 50 percent of the vehicles travel faster than, and 50 percent
travel slower than the median speed. This value is another measure of the central tendency of the vehicle speed distribution.
- The $15^{\text {th }}$ PERCENTILE SPEED is the speed at or below which 15 percent of the vehicles are traveling. This value is important in determining the minimum allowable speed limit, given that the vehicles traveling below this speed tend to obstruct the flow of traffic, thereby increasing the accident potential.

The numerical values of the above factors are derived from the cumulative speed distribution curves which are calculated for each survey location. These distribution curves represent a method of graphical analysis which compares the cumulative percentage of vehicles to the speed at which the vehicles are traveling.

### 2.5 FIELD REVIEW

In addition to the availability of the statistical data discussed above, a significant aspect of speed limit recommendations is based on the field review. This is important, in that existing conditions may warrant a lower speed than what is actually indicated by the application of the survey data. Examples of the field data collected for the purposes of analyzing related roadway characteristics as they pertain to the determination of appropriate speed limits are listed below:

1. Segment length, width, and alignment;
2. Level of pedestrian activity;
3. Traffic flow characteristics;
4. Number of lanes and other channelization/striping factors;
5. Frequency of intersections, driveways and on-street parking;
6. Location of stop signs, traffic signals, and other regulatory traffic control devices;
7. Roadway condition, bumps, and dips;
8. Obstructions to drive/pedestrian visibility;
9. Land use and proximity of schools;
10. Uniformity with existing speed zones to/with adjacent jurisdictions; and
11. Any other unusual conditions or hazards not readily apparent to the driver.

The results of the field review of related road/traffic variables are summarized on the Engineering and Traffic Survey forms found in the Appendix of this report.

### 2.6 ACCIDENT HISTORY

The Engineering and Traffic Survey forms summarize the available accident information for the subject streets. The accident information includes the total number of accidents within each street segment, and of those accidents, the number which are speed-related. This information is obtained from the City of Corona computerized accident database. The annual accident rate figures represent the number of speed-related accidents divided by two years of accident records.

The equation for calculating roadway segment accident rates is as follows:
Accident Rate per HMVM (100 Million Vehicle Miles) =
(No. of accidents in one year) $\times(100,000,000$
(Average Daily Traffic) $\times$ (365) $\times$ (Distance of Segment in Miles)

Source: Institute of Transportation Engineers, Traffic Engineering Handbook 6 ${ }^{\text {th }}$ ed., Washington D.C.: ITE, 2010

## 3. RESULTS AND RECOMMENDATIONS

Several factors are considered when determining recommendations for speed limits. These important factors include the prevailing speeds, as determined by the radar speed surveys; the accident history; and the existing traffic and roadside conditions not readily apparent to the driver. Per the California Manual on Uniform Traffic Control Devices (CA MUTCD) Section 2B.13, the posted speed is established at the nearest 5 MPH increment of the $85^{\text {th }}$ percentile speed of free-flow traffic, except as shown in the two options below.

Option 1: Whenever engineering study indicates the need for a reduction in speed to match existing conditions with the traffic safety needs of the community, the posted speed may be reduced by 5 MPH from the nearest 5 MPH increment of the $85^{\text {th }}$ percentile speed, provided that the conditions and justification for the lower speed limit is documented in writing in the E\&TS and approved by a registered Civil or Traffic Engineer. The conditions and justifications for those street segments with lower speed limits are provided in Section 3.2 herein.

Option 2: For cases in which the nearest 5 MPH increment of the $85^{\text {th }}$ percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 MPH increment below the $85^{\text {th }}$ percentile speed, if no further reduction is used.

Section 3.3 summarizes the results and recommendations of the radar speed survey for the selected locations. As shown, the table presents the necessary analysis elements that, in addition to the field review of a registered Civil Engineer, led to the recommendations indicated.

### 3.1 NO CHANGES TO EXISTING SPEED LIMITS

Section 3.3 indicates that 44 of 44 street segments are recommended for no change in posted speed limits. The reason centers mostly on the fact that newly measured values of the $85^{\text {th }}$ percentile and the 10 MPH pace are still within the parameters of the existing speed limits. Hence, the current postings should remain as is. Those locations are listed below:

- Belle Avenue

Third to Olive

- Crestridge Drive

Green River to Prado

- Harrison Street Main to Parkridge
- Kirkwood Drive Via Del Rio to Ontario
- Lincoln Avenue

Parkridge to Rincon ${ }^{1}$
Rincon to Pomona
Pomona to Olive ${ }^{1}$
Olive to Ontario
Ontario to Foothill ${ }^{1}$
Foothill to Mountain Gate ${ }^{1}$

- Main Street

Upper to Mountain Gate
Mountain Gate to Chase
Chase to Ontario ${ }^{1}$
Ontario to S. Grand
S. Grand to Eighth

Eighth to Third
Third to N. Grand
N. Grand to City Limits

- McKinley Street

Parkview to Promenade ${ }^{1}$
Promenade to SR-91 ${ }^{1}$
SR-91 to Magnolia

- Ranch Vista Road

Chantel to McKinley

- Richey Street

Mt. Humphries to Promenade ${ }^{1}$

- Rimpau Avenue

Sixth to Circle City
Circle City to Magnolia ${ }^{1}$
Magnolia to Old Temescal
Old Temescal to Ontario
Ontario to Foothill
Foothill to Upper

- Serfas Club Drive

Palisades to Green River

- Sixth Street

SR-91 to Lincoln ${ }^{1}$
Lincoln to W. Grand
W. Grand to E. Grand ${ }^{1}$
E. Grand to Rimpau

Rimpau to Promenade

- Smith Avenue

Rincon to Railroad ${ }^{1}$
Railroad to Sixth ${ }^{1}$
Sixth to Border

- Taylor Avenue

Olive to Ontario
Ontario to Montoya

- Upper Drive

Mountain Gate to Main
Main to Rimpau
Rimpau to Lemon Grove

- Via Del Rio

Kirkwood to Border ${ }^{1}$
${ }^{1}$ Speed limit reduction with justifications per CA MUTCD Section 2B. 13 (see Section 3.2 herein for justifications)

### 3.2 NO CHANGE TO EXISTING SPEED LIMITS WITH JUSTIFICATIONS

This Section presents the conditions and justifications for those street segments that are to remain unchanged after the 5 MPH reduction per the California MUTCD standards Section 2B.13. The speed reduction is necessary to facilitate the orderly movement of traffic, and the reasons for the lower speed limit compliant with CVC Sections 627 and 22358.5.

## Lincoln Avenue from Parkridge to Rincon (40 MPH)

This segment of Lincoln Avenue is a four-lane undivided secondary arterial with Class II bike lanes and is 0.78 miles in length. The segment serves residential uses via side streets and carries an average of 17,900 vehicles per day. There have been 12 speed related collisions on this segment in the past 2 years resulting in an accident rate of 118 accidents per HMVM. To maintain safe conditions, avoid an increase in speed-related accidents, and ensure adequate egress opportunities onto Lincoln Avenue, it is recommended that the current 40 MPH limit be maintained.

## Lincoln Avenue from Pomona to Olive ( 35 MPH )

This segment of Lincoln Avenue is a four-lane, undivided secondary arterial with Class II and Class III bike lanes, and carries 32,900 vehicles per day. This segment is 0.97 miles in length, is fronted by residential properties with frontloading driveways, retail shopping center at the north end, and a high school on the south end. There have been 101 accidents in the past two years, 25 of them being speed related collisions, resulting in an accident rate of 107 accidents per HMVM. To maintain safe conditions for pedestrians and students, avoid an increase in speedrelated accidents, and ensure adequate egress opportunities onto Lincoln Avenue from the school driveways, it is recommended that the current 35 MPH limit be maintained.

## Lincoln Avenue from Ontario to Foothill ( 45 MPH )

This segment of Lincoln Avenue is a four-lane, undivided major arterial with class II bike lanes, and carries 9,900 vehicles per day. This segment is 1.0 mile in length and serves residential uses via side streets along with a midblock pedestrian crossing near the south end. To maintain safe conditions, avoid an increase in speed-related accidents, and ensure adequate egress opportunities onto Lincoln Avenue, it is recommended that the current 45 MPH limit be maintained.

## Lincoln Avenue from Foothill to Mountain Gate (45 MPH)

This segment of Lincoln Avenue is a four-lane, undivided major arterial with class II bike lanes, and carries 6,200 vehicles per day. This segment is 0.5 mile in length and serves residential uses via side streets. There is an elementary school near the southern end of the segment which experiences heavy vehicular and student traffic during school let-in/let-out times. The roadway is characterized by horizontal and vertical curves along its entire length causing line of sight distance concerns not readily apparent to the motorist. To maintain safe conditions for pedestrians
and students, and ensure adequate egress opportunities onto Lincoln Avenue, it is recommended that the current 45 MPH limit be maintained.

## Main Street from Chase to Ontario (40 MPH)

This segment of Main Street is a four-lane, undivided major arterial that is 0.76 miles in length with Class II bike lanes and carries 14,400 vehicles per day. This portion of Main Street is fronted by commercial properties with frontloading driveways, a high school near the northern end, and residential throughout via side streets. This segment has a horizontal curve at northern end, which raises concern regarding safe stopping sight distance that may not be readily apparent to the motorist. To maintain safe conditions for pedestrians and students and ensure adequate egress opportunities onto Main Street, it is recommended that the current 40 MPH limit be maintained.

## McKinley Street from Parkview to Promenade to SR-91 (35 MPH)

This segment of McKinley Street is a four-lane undivided major arterial that is 0.70 miles in length and carries 25,500 vehicles per day. This portion of McKinley Street serves residential uses via side streets, includes Class II bike lanes throughout and is fronted by a fire station on the northern end of the segment. Another characteristic feature of this road is a vertical grade and slight horizontal curve which raises concern for safe stopping sight distance that may not be readily apparent to the motorist. There have been 11 speed related collisions on this segment in the past two years resulting in an accident rate of 84 accidents per HMVM. To maintain safe conditions, ensure adequate egress opportunities onto McKinley Street, it is recommended that the current 35 MPH limit be maintained.

## McKinley Street from Promenade to SR-91 (35 MPH)

This segment of McKinley Street is a six-lane undivided major arterial that is 0.41 miles in length and carries almost 40,000 vehicles per day. This portion of McKinley Street is heavily comprised of retail and commercial uses and includes four traffic signals spaced approximately 500' apart. There have been 22 speed related collisions on this segment in the past two years resulting in an accident rate of 184 accidents per HMVM. To avoid an increase in speed related accidents/injuries, maintain a safe stopping distance and ensure adequate egress opportunities onto McKinley Street without the increased risk of broadside accidents, McKinley Street should remain posted at the speed limit of 35 MPH.

Richey Street from Mount Humphries to Promenade ( 30 MPH )
Richey Street is a two-lane undivided street that is 0.33 miles in length which carries 2,700 vehicles per day, serves residential uses and is fronted by a public park. This segment has a slight vertical grade which raises concern for safe stopping sight distance that may not be readily apparent to the motorist. To ensure adequate egress opportunities onto Richey Street for the side streets and the park without the increased risk of broadside accidents, Richey Street should remain posted at the speed limit of 30 MPH .

## Rimpau Avenue from Circle City to Magnolia ( 35 MPH )

This portion of Rimpau Avenue is a two-lane undivided collector with on-street parking and Class II bike lanes on both sides. The segment is 0.73 miles in length, carries 13,700 vehicles a day, and serves mainly as a collector for residential properties in the area via numerous side streets. The street is fronted by multiple residential home and apartments along the entire segment as well as several commercial properties near the southern end. Along with the slow-moving cars that enter and exit the driveways throughout the day, another area of concern is the bus route and the bus stops located throughout this segment. To maintain safe conditions and to provide adequate reaction time for vehicles entering and exiting the driveways, this segment of Rimpau Avenue should remain posted as the speed limit of 35 MPH.

Sixth Street from SR-91 to Lincoln (35 MPH)
This segment of Sixth Street is a six-lane major arterial transitioning to a four-lane mixed use arterial with a Class II bike lane, is 1.2 miles in length and carries an average of 19,700 vehicles per day. Sixth Street is fronted by numerous commercial properties with frontloading driveways. The left- and right-turn movements of patrons from the commercial sites and the heavy pedestrian use all constitute conditions not readily apparent to the motorist. There have been 39 speed related collisions on this segment in the past two years resulting in an accident rate of 226 accidents per HMVM. To maintain a safe stopping distance and to ensure adequate egress opportunities onto Sixth Street from the commercial driveways without the increased risk of broadside accidents, Sixth Street should remain posted at the speed limit of 35 MPH .

## Sixth Street from W. Grand to E. Grand (35 MPH)

This segment of Sixth Street is a four-lane undivided mixed-use boulevard, is 0.88 miles in length with a Class III shared bike route. This portion of Sixth Street fronted by numerous commercial and retail properties with frontloading driveways with a heavy vehicle and pedestrian volume of approximately 20,800 vehicles per day. There have been 33 speed related collisions on this segment in the past two years resulting in an accident rate of 247 accidents per HMVM. To maintain safe conditions for pedestrians, ensure adequate egress opportunities onto Sixth Street and to provide adequate reaction time for vehicles entering and exiting the driveways, it is recommended that the current 35 MPH limit be maintained.

Smith Avenue from Rincon to Railroad ( 40 MPH )
This segment of Smith Avenue is a four-lane secondary arterial and is fronted by commercial uses and a public park. The segment is 0.40 miles in length with Class II bike lanes and carries 19,800 vehicles per day. To maintain safe conditions for pedestrians and motorists and ensure adequate egress opportunities onto Smith Avenue, it is recommended that the current 40 MPH limit be maintained.

## Smith Avenue from Railroad to Sixth (40 MPH)

This segment of Smith Avenue is a four-lane secondary arterial and is fronted by commercial uses. The segment is 0.90 miles in length, contains a railroad crossing and carries 13,800 vehicles per day. This segment has a slight vertical grade near
the northern end which raises concern for safe stopping sight distance that may not be readily apparent to the motorist. To maintain safe conditions, ensure adequate egress opportunities onto Smith Avenue, it is recommended that the current 40 MPH limit be maintained.

## Via Del Rio from Kirkwood to Border ( 35 MPH )

This segment of Via Del Rio is a two-lane, undivided secondary arterial that is 0.65 miles in length, and serves 11,200 vehicles per day. This segment serves residential uses via side streets and is also fronted by an elementary school which experiences heavy vehicular and student traffic during school let-in/let-out times. There is on-street parking, as well as a class II bike lanes throughout most of the segment. To maintain safe conditions for pedestrians and students, and to ensure adequate egress opportunities onto Via Del Rio Drive form the school driveways, it is recommended that the current 35 MPH limit be maintained.

### 3.3 PROPOSED SPEED LIMITS

| STREET | LIMITS | SPEED |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | EXISTING | $\begin{aligned} & \text { CRITICAL }^{1} \\ & \text { ( } 85 \% \text {-TILE) } \end{aligned}$ | PROPOSED |
| Belle Avenue | Third to Olive | 25 | 28.7 | 25 |
| Crestridge Drive |  |  |  |  |
|  | Green River to Prado | 30 | 32.5 | 30 |
|  |  |  |  |  |
| Harrison Street | Main to Parkridge | 35 | 39.8 | 35 |
|  |  |  |  |  |
| Kirkwood Drive | Via Del Rio to Ontario | 30 | 32.7 | 30 |
|  |  |  |  |  |
| Lincoln Avenue | Parkridge to Rincon | 40 | 47.4 | 40 |
|  | Rincon to Pomona | 40 | 41.4 | 40 |
|  | Pomona to Olive | 35 | 42.3 | 35 |
|  | Olive to Ontario | 40 | 44.0 | 40 |
|  | Ontario to Foothill | 45 | 50.5 | 45 |
|  | Foothill to Mountain Gate | 45 | 50.7 | 45 |
|  |  |  |  |  |
| Main Street | Upper to Mountain Gate | 40 | 43.6 | 40 |
|  | Mountain Gate to Chase | 40 | 42.8 | 40 |
|  | Chase to Ontario | 40 | 45.4 | 40 |
|  | Ontario to S. Grand | 40 | 43.2 | 40 |
|  | S. Grand to Eighth | 40 | 42.3 | 40 |
|  | Eighth to Third | 35 | 36.5 | 35 |
|  | Third to N. Grand | 35 | 38.9 | 35 |
|  | N. Grand to City Limits | 40 | 43.0 | 40 |
|  |  |  |  |  |
| McKinley Street | Parkview to Promenade | 45 | 50.3 | 45 |
|  | Promenade to SR-91 | 35 | 41.5 | 35 |
|  | SR-91 to Magnolia | 35 | 38.0 | 35 |
|  |  |  |  |  |
| Ranch Vista Road | Chantel to McKinley | 35 | 37.3 | 35 |
|  |  |  |  |  |
| Richey Street | Mt. Humphries to Promenade | 30 | 35.6 | 30 |
|  |  |  |  |  |
| Rimpau Avenue | Sixth to Circle City | 30 | 31.3 | 30 |
|  | Circle City to Magnolia | 35 | 41.5 | 35 |
|  | Magnolia to Old Temescal | 35 | 38.9 | 35 |
|  | Old Temescal to Ontario | 40 | 44.7 | 40 |
|  | Ontario to Foothill | 45 | 49.2 | 45 |
|  | Foothill to Upper | 40 | 44.0 | 40 |
|  |  |  |  |  |
| Serfas Club Drive | Palisades to Green River | 40 | 43.2 | 40 |
|  |  |  |  |  |

### 3.3 PROPOSED SPEED LIMITS (CONTINUED)

| Sixth Street | SR-91 to Lincoln | 35 | 41.6 | 35 |
| :--- | :--- | :---: | :---: | :---: |
|  | Lincoln to W. Grand | 35 | 39.5 | 35 |
|  | W. Grand to E. Grand | 35 | 41.9 | 35 |
|  | E. Grand to Rimpau | 40 | 43.2 | 40 |
|  | Rimpau to Promenade | 45 | 47.5 | 45 |
|  |  | 40 |  | 45.3 |
| Smith Avenue | Rincon to Railroad | 40 | 45.9 | 40 |
|  | Railroad to Sixth | 35 | 38.4 | 35 |
|  | Sixth to Border |  |  |  |
|  |  | 35 | 38.0 | 35 |
| Taylor Avenue | Olive to Ontario | 35 | 37.0 | 35 |
|  | Ontario to Montoya | 45 | 49.5 | 45 |
|  |  | 40 | 43.2 | 40 |
| Upper Drive | Mountain Gate to Main | 45 | 43.0 | 45 |
|  | Main to Rimpau |  |  |  |
|  | Rimpau to Lemon Grove | 35 | 41.5 | 35 |
|  |  |  |  |  |
|  |  |  |  |  |

## NOTE:

1. The CRITICAL SPEED, or 85th percentile speed, is defined as that speed at or below which 85 percent of the traffic is moving. From experience, traffic engineers have found that this is one of the most reliable factors in determining appropriate speed limits. Hence, the accepted practice, and one which has been used in this case, is to set the speed limit at the nearest 5 mph increment to the critical speed. When this procedure is used, it not only conforms to that required by the State but is also provides a strong base for law enforcement personnel to properly enforce speed limits.
