



ENGINEERING AND TRAFFIC SURVEY FOR SPEED LIMITS

Final Report

March 3, 2020

Prepared for: The logo for the City of Fremont, California, featuring a stylized mountain range with green peaks and blue slopes, above the text "CITY OF Fremont California".

Prepared by: The logo for Kimley-Horn, featuring the name "Kimley" in black, a red double arrow symbol, and "Horn" in red.

CERTIFICATION

I, Nikita Petrov, do hereby certify that this Engineering and Traffic Survey for the City of Fremont 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.



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Exp. 03/31/2021

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1.0 INTRODUCTION

This Engineering and Traffic Survey is intended to serve as the basis for the establishment and enforcement of speed limits for selected streets within the City of Fremont. This survey was authorized by the City and independently conducted by the private consulting firm Kimley-Horn and Associates, Inc (Kimley-Horn).

Engineering and traffic surveys for speed limits are regularly conducted once every five (5) years by governing municipalities for the purpose of complying with Section 40802(a) of the *California Vehicle Code (CVC)* and the national *Uniform Vehicle Code*. Engineering and traffic surveys may be extended to every seven (7) years if criteria is met, or every ten (10) years if a registered engineer evaluates the section of the highway and determines that no significant changes in roadway or traffic conditions have occurred as specified in Section 40802(c) of the *California Vehicle Code (CVC)*. In addition, an engineering and traffic survey should be conducted on newly constructed roadways or roadways where the roadway conditions have significantly changed.

The City last conducted an E&TS in November 2015. This E&TS covers roadway segments where changes in roadway design, traffic volumes, and/or adjacent land uses have occurred since 2015 which may have led to changes in operating speeds that warrant modifications to posted speed limits.

1.1 Regulations and Guidelines

Division 11, Chapter 7, of the California Vehicle Code defines the California Speed Laws. Section 22352 of the CVC indicates that prima facie speed limits are 15 miles per hour (mph) at unprotected railroad grade crossings, highway intersections with site restrictions, and on any alley. In addition, the prima facie speed limit is 25 mph in residential and business districts, when approaching or passing a school building or grounds thereof or when passing a senior center or other facility primarily used by senior citizens. Division 1 of the CVC defines a business district and residence district in Section 235 and 515, respectively.

"A "business district" is that portion of a highway and the property contiguous thereto (a) upon one side of which highway, for a distance of 600 feet, 50 percent or more of the contiguous property fronting thereon is occupied by buildings in use for business, or (b) upon both sides of which highway, collectively, for a distance of 300 feet, 50 percent or more of the contiguous property fronting thereon is so occupied. A business district may be longer than the distances

specified in this section if the above ratio of buildings in use for business to the length of the highway exists.”¹

“A "residence district" is that portion of a highway and the property contiguous thereto, other than a business district, (a) upon one side of which highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures, or (b) upon both sides of which highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures. A residence district may be longer than one-quarter of a mile if the above ratio of separate dwelling houses or business structures to the length of the highway exists.”²

Section 22357(a) permits the establishment of speed limits greater than 25 mph based on the following text:

“Whenever a local authority determines upon the basis of an engineering and traffic survey that a speed greater than 25 miles per hour would facilitate the orderly movement of vehicular traffic and would be reasonable and safe upon any street other than a state highway otherwise subject to a prima facie limit of 25 miles per hour, the local authority may by ordinance determine and declare a prima facie speed limit of 30, 35, 40, 45, 50, 55, or 60 miles per hour or a maximum speed limit of 65 miles per hour, whichever is found most appropriate to facilitate the orderly movement of traffic and is reasonable and safe.”³

Therefore, the CVC allows local authorities to increase or decrease the prima facie limits by ordinance or resolution to appropriate limits as determined by an engineering and traffic survey. Posted speed limits not defined in the CVC or established by ordinance are not valid. The CVC requires that speed surveys must be performed with the use of radar or other electronic devices at locations where speed limits are to be enforced with the use of radar. The current survey must be completed within five years as specified in Section 40802(a); seven years as specified in Section 40802(c), or ten years as specified in Section 40802(c), of the date of the preceding survey. A survey allowed to expire passed the valid duration of the previous survey would constitute a speed trap as defined in Sections 40802(a) and 40802(b) of the CVC:

¹ California Legislative Information, [Vehicle Code](#), Division 1, Section 235.

² California Legislative Information, [Vehicle Code](#), Division 1, Section 515.

³ California Legislative Information, [Vehicle Code](#), Division 11, Chapter 7, Section 22357(a).

“(1) A particular 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 known distance.

(2) A particular section of a highway with a prima facie speed limit that is provided by this code or by local ordinance under subparagraph (A) of paragraph (2) of subdivision (a) 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 five years prior to the date of the alleged violation, and enforcement of the speed limit involves the use of radar or any other electronic device that measures the speed of moving objects. This paragraph does not apply to a local street, road, or school zone.

(b) (1) For purposes of this section, a local street or road is one that is functionally classified as "local" on the "California Road System Maps," that are approved by the Federal Highway Administration and maintained by the Department of Transportation. When a street or road does not appear on the "California Road System Maps," it may be defined as a "local street or road" if it primarily provides access to abutting residential property and meets the following three conditions:

(A) Roadway width of not more than 40 feet.

(B) Not more than one-half of a mile of uninterrupted length. Interruptions shall include official traffic control signals as defined in Section 445.

(C) Not more than one traffic lane in each direction.

(2) For purposes of this section "school zone" means that area approaching or passing a school building or the grounds thereof that is contiguous to a highway and on which is posted a standard "SCHOOL" warning sign, while children are going to or leaving the school either during school hours or during the noon recess period. "School zone" also includes the area approaching or passing any school grounds that are not separated from the highway by a fence, gate, or other physical barrier while the grounds are in use by children if that highway is posted with a standard "SCHOOL" warning sign.”⁴

⁴ California Legislative Information, [Vehicle Code](#), Division 17, Chapter 2, Section 40802.

1.2 Requirements and Methodology of an Engineering and Traffic Study

Speed zones are primarily established to protect the public from the unreasonable behavior of reckless, unreliable, or otherwise dangerous drivers. Speed limits are generally established at or near the 85th percentile speed, which is defined as the speed at or below which 85 percent of traffic is moving. Speed limits established on this basis conform to the consensus of those who drive on the roadways as to what speed is reasonable and safe, and are not dependent on the judgment of one or a few individuals.

The Engineering and Traffic Survey, as defined in Section 627 of the CVC, must consider the prevailing speeds, collision records, pedestrian and bicycle activity, and roadway traffic and roadside conditions not readily apparent to the driver. Speed zones are also established to advise motorists 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 conducted which is considered in combination with the statistical data and collision history of a particular roadway segment to determine a safe and reasonable speed limit. The specific procedures used in the performance of an Engineering and Traffic Study are outlined in the *2014 California MUTCD*. The statistical factors used to analyze the collected speed survey data and additional factors as noted in the *2014 California MUTCD* to consider are defined in the following section.

2.0 SPEED SURVEY EVALUATION

Ninety-Six (96) locations were evaluated by Kimley-Horn and included in this report. These roadway sections and limits of the sections are listed in Table 1.

Table 1: Survey Locations and Limits Evaluated by Kimley-Horn

	STREET	LIMIT 1	LIMIT 2
1	Ardenwood Boulevard	Union City Limit	Newark City Limit
2	Auto Mall Parkway	Westerly End	Boyce Road
3	Beacon Avenue	Fremont Boulevard	Liberty Street
4	Blacow Road	Fremont Boulevard	Grimmer Boulevard
5	Blacow Road	Grimmer Boulevard	Stevenson Boulevard
6	Blacow Road	Stevenson Boulevard	Mowry Avenue
7	Blacow Road	Mowry Ave	Central Avenue
8	Blacow Road	Central Avenue	Thornton Avenue
9	Business Center Dr/Technology Pl	Grimmer Boulevard	Technology Drive
10	Capitol Avenue	Paseo Padre Parkway	State Street
11	Central Avenue	Fremont Blvd	Blacow Road
12	Central Avenue	Blacow Road	I-880
13	Civic Center Drive	Mowry Avenue	Stevenson Boulevard
14	Country Drive	Fremont Boulevard	Paseo Padre Parkway
15	Country Drive	Paseo Padre Parkway	Stivers Street
16	Driscoll Road	Mission Boulevard	Paseo Padre Parkway
17	Driscoll Road	Paseo Padre Parkway	Washington Boulevard
18	Fremont Boulevard	Beard Road	Paseo Padre Parkway
19	Fremont Boulevard	Paseo Padre Parkway	Decoto Road
20	Fremont Boulevard	Decoto Road	Thornton Avenue
21	Fremont Boulevard	Thornton Avenue	Peralta Boulevard
22	Fremont Boulevard	Peralta Boulevard	Central Avenue
23	Fremont Boulevard	Central Avenue	Mowry Avenue
24	Fremont Boulevard	Mowry Avenue	Stevenson Boulevard
25	Fremont Boulevard	Stevenson Boulevard	Grimmer Boulevard
26	Fremont Boulevard	Grimmer Boulevard	Washington Boulevard
27	Fremont Boulevard	Washington Boulevard	Blacow Road
28	Fremont Boulevard	Blacow Road	Auto Mall Parkway
29	Fremont Boulevard	Auto Mall Parkway	S Grimmer Boulevard
30	Fremont Boulevard	S Grimmer Boulevard	I-880
31	Fremont Boulevard	I-880	Warren Avenue
32	Fremont Boulevard	Warren Avenue	Lakeview Boulevard
33	Fremont Boulevard	Lakeview Boulevard	Dixon Landing Road
34	Gallaudet Drive	Walnut Avenue	Stevenson Boulevard
35	Grimmer Boulevard (South)	Paseo Padre Parkway	Osgood Road
36	Grimmer Boulevard (South)	Osgood Road	Fremont Boulevard
37	Grimmer Boulevard (South)	Fremont Boulevard	Auto Mall Parkway
38	Grimmer Boulevard	Auto Mall Parkway	Blacow Road

Table 1, continued: Survey Locations and Limits Evaluated by Kimley-Horn

	STREET	LIMIT 1	LIMIT 2
39	Grimmer Boulevard	Blacow Road	Fremont Boulevard
40	Grimmer Boulevard	Fremont Boulevard	Paseo Padre Parkway
41	Guardino Drive	Stevenson Boulevard	Mowry Avenue
42	Hastings Street	Capitol Avenue	Country Drive
43	Irvington Avenue	Fremont Boulevard	Grimmer Boulevard
44	Kaiser Drive	Ardenwood Boulevard	Paseo Padre Parkway
45	Liberty Street	Stevenson Boulevard	Walnut Avenue
46	Liberty Street	Walnut Avenue	Capitol Avenue
47	Mowry Avenue	Mission Boulevard	Peralta Boulevard
48	Mowry Avenue	Peralta Boulevard	Paseo Padre Parkway
49	Mowry Avenue	Paseo Padre Parkway	Fremont Boulevard
50	Mowry Avenue	Fremont Boulevard	Argonaut Way
51	Mowry Avenue	Argonaut Way	Blacow Road
52	Mowry Avenue	Blacow Road	I-880
53	Niles Boulevard	City Limits	Nursery Avenue
54	Niles Boulevard	Nursery Avenue	Hillview Drive
55	Osgood Road	Washington Boulevard	Auto Mall Parkway
56	Osgood Road	Auto Mall Parkway	Grimmer Boulevard
57	Paseo Padre Parkway	City Limits	Ardenwood Boulevard
58	Paseo Padre Parkway	Ardenwood Boulevard	Fremont Boulevard
59	Paseo Padre Parkway	Fremont Boulevard	Decoto Road
60	Paseo Padre Parkway	Decoto Road	Thornton Avenue
61	Paseo Padre Parkway	Thornton Avenue	Peralta Boulevard
62	Paseo Padre Parkway	Peralta Boulevard	Mowry Avenue
63	Paseo Padre Parkway	Mowry Avenue	Stevenson Boulevard
64	Paseo Padre Parkway	Stevenson Boulevard	Grimmer Boulevard
65	Paseo Padre Parkway	Grimmer Boulevard	Driscoll Road
66	Paseo Padre Parkway	Driscoll Road	Washington Boulevard
67	Paseo Padre Parkway	Washington Boulevard	Durham Road
68	Paseo Padre Parkway	Durham Road	S Grimmer Boulevard
69	Paseo Padre Parkway	S Grimmer Boulevard	Mission Boulevard
70	Paseo Padre Parkway	Mission Boulevard	Curtner Road
71	Peralta Boulevard	Mowry Avenue	Paseo Padre Parkway
72	Peralta Boulevard	Paseo Padre Parkway	Fremont Boulevard
73	Peralta Boulevard	Fremont Boulevard	Dusterberry Way
74	Rancho Arroyo Parkway	Niles Boulevard	Riviera Drive
75	Roberts Avenue	Blacow Road	Main Street
76	State Street	Beacon Road	Mowry Avenue
77	Stevenson Boulevard	Mission Boulevard	Civic Center Drive
78	Stevenson Boulevard	Civic Center Drive	Fremont Boulevard
79	Stevenson Boulevard	Fremont Boulevard	Blacow Road
80	Stevenson Boulevard	Blacow Road	I-880

Table 1, continued: Survey Locations and Limits Evaluated by Kimley-Horn

NO	STREET	LIMIT 1	LIMIT 2
81	Stevenson Boulevard	I-880	Westerly End
82	Sundale Drive	Liberty Street	Fremont Boulevard
83	Thornton Avenue	I-880	Fremont Boulevard
84	Walnut Avenue	Argonaut Way	Fremont Boulevard
85	Walnut Avenue	Fremont Boulevard	Paseo Padre Parkway
86	Warm Springs Boulevard	Warm Springs Court	Mission Boulevard
87	Warm Springs Boulevard	Mission Boulevard	Warren Avenue
88	Warm Springs Boulevard	Warren Avenue	Scott Creek Road
89	Warm Springs Boulevard	Scott Creek Road	City Limits
90	Warren Avenue	Fremont Boulevard	I-880
91	Warren Avenue	I-880	Warm Springs Boulevard
92	Warren Avenue	Warm Springs Boulevard	Navajo Way
93	Warren Avenue	Navajo Way	Curtner Road
94	Washington Boulevard	Fremont Boulevard	Driscoll Road
95	Washington Boulevard	Driscoll Road	Paseo Padre Parkway
96	Washington Boulevard	Paseo Padre Parkway	Mission Boulevard

2.1 Field Review

Speed data was collected using manual radar surveys performed by a sub-consultant to Kimley-Horn, All Traffic Data, Inc. (ATD). Each of the radar speed checks were made from an inconspicuously parked, unmarked vehicle. An effort was made to ensure that the presence of the vehicle in no way affected the speed of the traffic being surveyed. Field information from these speed surveys and other roadway characteristics were recorded on field data forms and later coded into engineering software for analysis purposes. Chapter 2B of the *2014 California MUTCD* indicates that it is desirable to have a minimum sample of 100 vehicles for a speed zone survey for an arterial street. This may result in excessive survey periods for low volume roadways, but a survey should not contain less than 50 vehicles. In addition, average daily traffic volumes (ADT) were collected at all the locations.

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. The results of the field review for related roadway and traffic variables are summarized in the Engineering and Traffic Survey forms included in the Appendix.

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

2.2 Statistical Analysis Factors

Significant factors used to analyze the collected survey data are summarized below:

1. **85th Percentile Speed.** The Critical Speed, or the 85th percentile speed, is defined as that speed at or below which 85 percent of the traffic is moving. This factor is the primary guide in determining what speeds the majority of safe and reasonable drivers are traveling. Therefore, the practice is to set the speed limit to the nearest 5 mph increment from the critical speed unless other factors require a lower limit. Speed limits set on this basis provide law enforcement officials with a means of controlling reckless or unreliable drivers who will not conform to what the majority finds reasonable.
2. **The 10-mph Pace.** The 10-mph Pace is the 10-mph increment range, which contains the largest number of recorded vehicles. The pace is a measure of the dispersion of speeds within the sample surveyed. Speed limits should normally be set to fall within the 10-mph pace. However, conditions not readily apparent to the driver or adhering to State mandated limits such as in Residence Districts may require setting speed limits below the 10-mph pace.
3. **50th Percentile Speed.** The Median Speed, or 50th Percentile Speed, represents the mid-point value within the range of recorded speeds for a particular roadway location. 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. Typically speed limits should not be set below the 50th Percentile Speed, since it would result in greater than 50-percent of the drivers exceeding the speed limit.
4. **15th Percentile Speed.** The 15th Percentile Speed is that 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 collision potential.
5. **Percent of Vehicles in Pace Speed.** The percent of vehicles in the 10-mph pace speed is an indication of the grouping of vehicular speeds. Ideally, if all vehicles were traveling at or about the same speed, there would be a reduced likelihood of vehicular collisions. In speed limit analysis, the higher the percent of vehicles within the pace speed, the more favorable the speed distribution. The percent of the 10-mph pace is often between 60 and 90 percent.

2.3 2014 California MUTCD and CVC Guidance

Based on the *2014 California MUTCD*, speed limits “shall be established at the nearest 5 mph increment of the 85th-percentile speed of free-flowing traffic.”⁵ In matching existing conditions with the traffic safety needs of the community, engineering judgment may indicate the need for a reduction of the posted speed limit by 5 mph due to specific factors such as road characteristics, the pace speed, roadside development and environment, pedestrian activity, and collision history. Alternatively, per CVC Code 21400(b)⁵, the *2014 California MUTCD* states that “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.”⁶ The following are some other factors to consider when establishing speed limits between adjacent street segments:

1. **Avoid Short Segments.** Short speed zones of less than ½ mile should be avoided, except in transition areas.
2. **Change in Roadway Conditions or Roadside Development.** Speed zone changes should be coordinated with changes in roadway conditions or roadside development.
3. **Minimize Change in Speed between Adjacent Segments.** Speed zoning should be in 10 mph increments except in urban areas where 5 mph increments are preferable.
4. **Coordinate Speed Zoning with Adjacent Jurisdictions.**

⁵ California Legislative Information, [Vehicle Code](#), Division 11, Chapter 2, Article 2.

⁶ California Department of Transportation, *2014 California MUTCD*, Chapter 2B, page 134, 29 March 2019.

2.4 Collision History

The Engineering and Traffic Survey forms summarize the available collision information for each of the street segments. The collision information was obtained from the City of Fremont from April 1, 2015 to March 31, 2019. For this analysis, only collisions during the 3-year period between January 1, 2016 and December 31, 2018 were considered. The collisions were reviewed and corridor related collisions, those not related to signalized intersections, were summarized for each segment. Based on the number of total collisions studied over the 3-year period and ADT counts, a collision rate per million vehicle miles was calculated for each segment. To provide a general comparison of the collision rates on the segments to expected collisions rates for similar types of local roadways, the collision rates for each segment were compared to the statewide average rate listed in the 2016 Collision Data on California State Highways (road miles, travel, collisions, collision rates) as listed in Table 2.

Table 2: 2016 California State Highways Collision Rates

Lane Type	Total Collision Rate Per Million Vehicle Miles (3-year rates for 2014, 2015, and 2016)
2&3 Lanes	1.36
4 lanes (undivided highway)	1.67
4 lanes (divided highway)	1.35

3.0 RESULTS AND RECOMMENDATIONS

The recommendations contained in this report are intended to establish prima facie speed limits. Prima facie limits attempt to advise the motorist and enforcement of the reasonable speed for a particular section of roadway for the prevailing conditions. In many cases, the recommendations made produce a uniform speed limit along the road. As a result, the speed limits in adjacent jurisdictions were considered as well as along the various street segments surveyed within the City of Fremont.

The Engineering and Traffic Survey forms, presented in the Appendix, illustrate the results of a thorough evaluation of the available data and indicate a recommended speed limit for each of the street segments surveyed. A summary of the data analysis, along with recommended speed limits can be found in Table 3.

Table 3: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
1	Ardenwood Boulevard between Union City Limit and Newark City Limit	40	35	41.6	35.8	33 – 42	68.1	85 th -percentile speed downgraded due to uncontrolled crosswalk
2	Auto Mall Parkway Between Westerly End and Boyce Road	45	40	43.8	40.2	36-45	47.1	85 th -percentile speed downgraded 5 mph due to bicycle safety
3	Beacon Avenue between Fremont Blvd and Liberty St	30	25	31.3	27.0	23 – 32	82.8	85 th -percentile speed downgraded 5 mph due to high collision rate, pedestrian activity and uncontrolled crosswalk
4	Blacow Road between Fremont Blvd and Grimmer Blvd	40	35	41.4	37.6	34 – 43	79.3	85 th -percentile speed downgraded 5 mph due to high collision rate, proximity to park, fronting school and moderate pedestrian activity
5	Blacow Road between Grimmer Blvd and Stevenson Blvd	40	40	46.0	41.7	38 – 47	81.0	85 th -percentile speed downgraded 5 mph due to moderate pedestrian activity and proximity to school

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
6	Blacow Road between Stevenson Blvd and Mowry Ave	40	40	44.7	39.0	36 – 45	68.6	85 th -percentile speed downgraded 5 mph due to fronting school
7	Blacow Road between Mowry Ave and Central Ave	40	35	41.2	35.2	29 – 38	61.7	85 th -percentile speed downgraded due to uncontrolled crosswalk
8	Blacow Road between Central Ave and Thornton Ave	35	35	39.7	35.1	31 – 40	70.5	85 th -percentile speed downgraded due to fronting residential
9	Business Center Drive-Technology Place between Grimmer Blvd and Technology Dr	40	40	43.5	37.7	35 – 44	66.4	85 th -percentile speed downgraded due to pace speed
10	Capitol Avenue between Paseo Padre Parkway and State St	N/A	25	23.3	18.2	15 – 24	84.1	85 th -percentile speed
11	Central Avenue between Fremont Blvd and Blacow Rd	35	35	38.7	33.0	28-37	67.5	85 th -percentile speed downgraded due to uncontrolled crosswalks and fronting residential
12	Central Avenue between Blacow Rd and I-880	40	40	42.4	38.0	34 – 43	78.0	85 th -percentile speed
13	Civic Center Drive between Mowry Ave and Stevenson Blvd	30	25	29.0	24.9	21-30	83.3	85 th -percentile speed downgraded due to uncontrolled crosswalks, high pedestrian activity and downtown land uses
14	Country Drive between Fremont Blvd and Paseo Padre Parkway	30	30	36.8	30.8	26 – 35	73.0	85 th -percentile speed downgraded 5 mph due to high pedestrian activity and proximity to school

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
15	Country Drive between paseo Padre Parkway and Stivers St	30	30	35.5	32.2	29 – 38	99.0	85 th -percentile speed downgraded 5 mph due to high pedestrian activity, proximity to retirement community and high collision rate
16	Driscoll Road between Mission Blvd and Paseo Padre Parkway	40	35	42.4	36.7	33 – 42	68.0	85 th -percentile speed downgraded 5 mph due to fronting school, fronting residential, uncontrolled crosswalks, and high pedestrian activity
17	Driscoll Road between Paseo Padre Parkway and Washington Blvd	40	40	42.5	37.2	34 – 43	74.2	85 th -percentile speed downgraded 5 mph due to fronting residential and uncontrolled crosswalk
18	Fremont Boulevard between Beard Rd and Paseo Padre Parkway	40	35	38.7	32.8	28 – 37	66.5	85 th -percentile speed downgraded due to pace speed
19	Fremont Boulevard between Paseo Padre Parkway and Decoto Road	40	35	41.2	37.3	33-42	68.9	85 th -percentile speed downgraded 5 mph due to moderate pedestrian activity
20	Fremont Boulevard between Decoto Road and Thornton Avenue	40	35	40.9	35.1	30 – 39	65.7	85 th -percentile speed downgraded 5 mph due to fronting school
21	Fremont Boulevard between Thornton Ave and Peralta Ave	30	30	33.3	28.6	24-33	77.8	85 th -percentile speed downgraded 5 mph due to pace speed and uncontrolled crosswalk
22	Fremont Boulevard between Peralta Ave and Central Ave	30	30	33.0	28.9	25 – 34	81.3	85 th -percentile speed downgraded 5 mph due to high collision rate and town center land uses
23	Fremont Boulevard between Central Ave and Mowry Ave	35	35	39.8	36.0	32 – 41	88.0	85 th -percentile speed downgraded 5 mph due to proximity to schools

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
24	Fremont Boulevard between Mowry Ave and Stevenson Blvd	40	35	37.6	33.7	29 – 38	81.9	85 th -percentile speed downgraded due to pace speed, moderate bicycle and pedestrian activity, and downtown land uses
25	Fremont Boulevard between Stevenson Blvd and Grimmer Blvd	35	35	41.1	37.0	34 – 43	90.0	85 th -percentile speed downgraded 5 mph due to high pedestrian activity and uncontrolled crosswalk
26	Fremont Boulevard between Grimmer Blvd and Washington Blvd	35	30	34.0	30.2	26 – 35	84.2	85 th -percentile speed downgraded 5 mph due to high pedestrian activity, town center land uses and uncontrolled crosswalk
27	Fremont Boulevard between Washington Blvd and Blacow Rd	40	30	36.6	32.3	28 – 37	75.8	85 th -percentile speed downgraded 5 mph due to pedestrian and bicycle safety and to be consistent with the adjacent town center segments
28	Fremont Boulevard between Blacow Rd and Auto Mall Parkway	40	40	46.7	41.1	38 – 47	60.5	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks
29	Fremont Boulevard between Auto Mall Parkway and S Grimmer Blvd	45	40	47.2	41.3	36 – 45	65.9	85 th -percentile speed downgraded 5 mph due to bicyclist safety and corridor consistency
30	Fremont Boulevard between S Grimmer Blvd and I-880	45	40	42.2	37.3	33 – 42	73.4	85 th -percentile speed
31	Fremont Boulevard between I-880 and Warren Ave	45	40	46.3	41.4	36 – 45	70.2	85 th -percentile speed downgraded due to pace speed
32	Fremont Boulevard between Warren Ave and Lakeview Blvd	45	45	49.9	43.1	38 – 47	56.5	85 th -percentile speed downgraded due to pace speed and uncontrolled crosswalk

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
33	Fremont Boulevard between Lakeview Blvd and Dixon Landing Rd	45	45	51.5	44.8	40 – 49	68.4	85 th -percentile speed downgraded 5 mph due to bicyclist safety and pace speed
34	Gallaudet Drive between Walnut Ave and Stevenson Blvd	35	30	31.9	28.8	25 – 34	86.7	85 th -percentile speed
35	S Grimmer Boulevard between Paseo Padre Parkway and Osgood Rd	40	35	38.9	34.2	30 – 39	76.2	85 th -percentile speed downgraded due to pace speed and pedestrian activity
36	S Grimmer Boulevard between Osgood Rd and Fremont Blvd	40	40	43.8	37.3	32 – 41	59.1	85 th -percentile speed downgraded due to bicyclist and pedestrian safety
37	S Grimmer Boulevard between Fremont Blvd and Auto Mall Parkway	40	40	44.8	40.5	37 – 46	73.3	85 th -percentile speed downgraded due to bicyclist safety and truck traffic
38	Grimmer Boulevard between Auto Mall Parkway and Blacow Rd	40	40	43.2	37.9	34 – 43	69.2	85 th -percentile speed downgraded due to bicycle safety and corridor consistency
39	Grimmer Boulevard between Blacow Rd and Fremont Blvd	40	40	43.1	36.6	31 – 40	60.7	85 th -percentile speed downgraded 5 mph due to proximity to school
40	Grimmer Boulevard between Fremont Blvd and Paseo Padre Parkway	35	35	39.3	35.1	30 – 39	80.8	85 th -percentile speed downgraded 5 mph due to high collision rate
41	Guardino Drive between Stevenson Blvd and Mowry Ave	30	30	37.0	33.4	30 – 39	86.1	85 th -percentile speed downgraded 5 mph due to high collision rate
42	Hastings Street between Capitol Ave and Country Dr	30	25	28.7	25.0	20 – 29	81.9	85 th -percentile speed downgraded 5 mph due to high collision rate and downtown land uses

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
43	Irvington Avenue between Fremont Blvd and Grimmer Blvd	30	25	31.6	27.7	24 – 33	87.7	85 th -percentile speed downgraded 5 mph due to high collision rate
44	Kaiser Drive between Ardenwood Boulevard and Paseo Padre Parkway	40	35	39.4	36.2	31-40	82.9	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks and moderate to high pedestrian activity
45	Liberty Street between Stevenson Blvd and Walnut Ave	30	30	34.6	29.1	27 – 36	69.3	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks
46	Liberty Street between Walnut Ave and Capitol Ave	30	25	30.9	26.6	23 – 32	73.4	85 th -percentile speed downgraded 5 mph due to high pedestrian and bicycle activity and downtown land uses
47	Mowry Avenue between Mission Blvd to Peralta Blvd	35 - 40	35	38.5	33.2	29 – 38	62.9	85 th -percentile speed downgraded due to pace speed
48	Mowry Avenue between Peralta Blvd to Paseo Padre Parkway	35	35	40.5	37.3	35 – 44	100.0	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks
49	Mowry Avenue between Paseo Padre Parkway to Fremont Blvd	40	40	43.6	39.3	35 – 44	88.2	85 th -percentile speed downgrade due to moderate pedestrian and bicycle activity, downtown land uses
50	Mowry Avenue between Fremont Boulevard to Argonaut Way	40	40	42.7	37.9	35 – 44	91.9	85 th -percentile speed downgraded due to moderate pedestrian and bicycle activity
51	Mowry Avenue between Argonaut Way to Blacow Rd	40	40	46.4	40.9	38 – 47	74.9	85 th -percentile speed downgraded 5 mph due to pedestrian, bicycle safety and fronting residential

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
52	Mowry Avenue between Blacow Rd to I-880	40	35	32.9	28.1	24 – 33	74.4	85 th -percentile speed
53	Niles Boulevard between City Limits and Nursery Ave	35 - 40	35	38.7	34.4	29 – 38	78.7	85 th -percentile speed downgraded due to uncontrolled crosswalks, fronting residential and proximity to park
54	Niles Boulevard between Nursery Ave and Hillview Rd	35	25	26.9	23.1	18 – 27	83.2	85 th -percentile speed
55	Osgood Road between Washington Blvd and Auto Mall Parkway	40	40	44.5	39.5	35 – 44	77.4	85 th -percentile speed downgraded due to pace speed and truck activity
56	Osgood Road between Auto Mall Parkway and Grimmer Blvd	40	40	43.1	37.0	33 – 42	66.7	85 th -percentile speed downgraded due to pace speed, pedestrian activity and truck traffic
57	Paseo Padre Parkway between City Limits and Ardenwood Blvd	45	40	46.8	40.4	37 – 46	57.6	85 th -percentile speed downgraded 5 mph due to the pace speed and uncontrolled crosswalks
58	Paseo Padre Parkway between Ardenwood Blvd and Fremont Blvd	40	40	43.8	39.4	36 – 45	75.7	85 th -percentile speed downgraded due to corridor consistency and pace speed
59	Paseo Padre Parkway between Fremont Blvd and Decoto Rd	45	40	44.6	39.2	36 – 45	78.4	85 th -percentile speed downgraded due to pace speed and proximity to school
60	Paseo Padre Parkway between Decoto Rd and Thornton Ave	45	45	48.0	42.8	38 – 47	67.9	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks and proximity to Alameda Creek Trail
61	Paseo Padre Parkway between Thornton Ave and Peralta Blvd	40	35	35.9	31.6	28 – 37	78.0	85 th -percentile speed

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
62	Paseo Padre Parkway between Peralta Blvd and Mowry Ave	35	35	38.7	34.7	30 – 39	85.5	85 th -percentile speed downgraded due to pace speed and corridor consistency
63	Paseo Padre Parkway between Mowry Ave and Stevenson Blvd	35	30	37.1	32.1	29 – 38	73.9	85 th -percentile speed downgraded 5 mph due to the adjacent downtown land uses and high bicycle and pedestrian activity
64	Paseo Padre Parkway between Stevenson Blvd and Grimmer Blvd	35	35	39.3	34.8	30 – 39	78.0	85 th -percentile speed downgraded 5 mph due to uncontrolled crossing, proximity to senior center and park
65	Paseo Padre Parkway between Grimmer Blvd and Driscoll Rd	35	35	37.8	32.5	27 – 36	71.6	85 th -percentile speed downgraded due to pace speed, proximity to park and corridor consistency
66	Paseo Padre Parkway between Driscoll Rd and Washington Blvd	35	35	40.6	36.5	31 – 40	79.2	85 th -percentile speed downgraded 5 mph due to fronting residential, and uncontrolled crosswalks
67	Paseo Padre Parkway between Washington Blvd and Durham Rd	35	35	38.0	33.7	30 – 39	77.3	85 th -percentile speed downgraded due to fronting residential
68	Paseo Padre Parkway between Durham Rd and S Grimmer Blvd	35	35	40.6	35.9	32 – 41	76.4	85 th -percentile speed downgraded 5 mph due to the proximity to school and park
69	Paseo Padre Parkway between S Grimmer Blvd and Mission Blvd	35	35	39.1	33.9	31 – 40	76.9	85 th -percentile speed downgraded 5 mph due to uncontrolled crosswalks and proximity to school
70	Paseo Padre Parkway between Mission Blvd and Curtner Rd	30	30	37.0	33.3	29-38	86.1	85 th -percentile speed downgraded 5 mph due to fronting residential

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
71	Peralta Boulevard Between Mowry Ave and Paseo Padre Pkwy	35-40	40	43.8	40.2	36-45	85.4	85 th -percentile speed downgraded 5 mph due to the pace speed and uncontrolled crosswalk
72	Peralta Boulevard between Paseo Padre Pkwy and Fremont Boulevard	30-35	35	37.7	32.4	29-38	69.4	85 th -percentile speed downgraded 5 mph due to the pace speed and fronting residential.
73	Peralta Boulevard between Fremont Blvd and Dusterberry Way	35	30	35.8	30.1	27 – 36	68.4	85 th -percentile speed downgraded 5 mph due to the pace speed
74	Rancho Arroyo Parkway between Niles Blvd and Riviera Dr	30	25	32.0	27.0	23 – 32	75.9	85 th -percentile speed downgraded due to collision rate and fronting residential
75	Roberts Avenue between Blacow Rd and Main St	25	25	30.7	25.7	21 – 30	79.2	85 th -percentile speed downgraded 5 mph due to fronting residential
76	State Street between Beacon Rd and Mowry Ave	N/A	25	31.4	26.6	23 – 32	73.9	85 th -percentile speed downgraded 5 mph due to high collision rate and downtown land uses
77	Stevenson Boulevard between Mission Blvd and Civic Center Dr	40	40	44.4	39.1	36 – 45	79.5	85 th -percentile speed downgraded 5 mph due to proximity to a park, and School for Deaf and Blind
78	Stevenson Boulevard between Civic Center Dr and Fremont Blvd	40	35	42.1	38.7	34 – 43	84.2	85 th -percentile speed downgraded 5 mph due to the adjacent downtown land use and high bicycle and pedestrian activity
79	Stevenson Boulevard between Fremont Blvd and Blacow Rd	40	40	44.4	39.6	36 – 45	81.3	85 th -percentile speed downgraded due to pace speed and proximity to school
80	Stevenson Boulevard between Blacow Rd and I-880	40	40	46.6	41.1	37 – 46	75.0	85 th -percentile speed downgraded 5 mph due to the proximity to school

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
81	Stevenson Boulevard between I-880 and Westerly End	40	40	44.1	39.4	37 – 46	79.3	85 th -percentile speed downgraded to be consistent with neighboring jurisdiction
82	Sundale Drive between Liberty St and Fremont Blvd	30	30	34.6	30.1	26 – 35	77.0	85 th -percentile speed downgraded 5 mph due to high collision rate and the proximity to hospital and senior living
83	Thornton Avenue between I-880 and Fremont Blvd	35	35	37.6	32.1	28-37	70.3	85 th -percentile speed downgraded 5 mph due to fronting school and pace speed
84	Walnut Avenue between Argonaut Way and Fremont Blvd	30	30	34.4	29.5	26 – 35	78.5	85 th -percentile speed downgraded 5 mph due high collision rate, high pedestrian activity, downtown land uses and uncontrolled crosswalk
85	Walnut Avenue between Fremont Blvd and Paseo Padre Parkway	35	35	40.6	35.9	31 – 40	72.1	85 th -percentile speed downgraded 5 mph due downtown land uses, proximity of hospital, and senior living
86	Warm Springs Boulevard between S Grimmer Blvd and Mission Blvd	35	35	40.2	36.6	32 – 41	79.5	85 th -percentile speed downgraded due to uncontrolled crosswalk, moderate pedestrian and bicycle activity and town center land uses
87	Warm Springs Boulevard between Mission Blvd and Warren Ave	35	35	35.0	29.0	25 – 34	63.6	85 th -percentile speed
88	Warm Springs Boulevard between Warren Ave and Scott Creek Rd	40	40	46.3	39.4	33 – 42	61.5	85 th -percentile speed downgraded 5 mph due to proximity to school and moderate pedestrian activity

Table 3, continued: Speed Survey Recommendations

No.	Street Segment	Existing Speed Limit (mph)	Recom Speed Limit (mph)	85% Speed (mph)	Median Speed (mph)	10 mph Pace Range (mph)	% of Veh. In Pace	Justification
89	Warm Springs Boulevard between Scott Creek Rd and City Limits	40	40	46.1	42.1	37 – 46	77.7	85 th -percentile speed downgraded 5 mph to be consistent with neighboring jurisdiction
90	Warren Avenue between Fremont Blvd and I-880	35-40	35	40.7	33.9	29-38	63.5	85 th -percentile speed downgraded 5 mph due to pace speed and pedestrian safety
91	Warren Avenue between I-880 and Warm Springs Blvd	35-40	35	33.5	28.7	24-33	74.4	85 th -percentile speed
92	Warren Avenue between Warm Springs Blvd and Navajo Way	35	35	39.7	33.6	29 – 38	68.5	85 th -percentile speed downgraded due to uncontrolled crosswalk and proximity to school
93	Warren Avenue between Navajo Way and Curtner Rd	35	35	39.3	34.1	29 – 38	68.7	85 th -percentile speed downgraded due to proximity to school and corridor consistency
94	Washington Boulevard between Fremont Blvd and Driscoll Rd	35	30	35.6	31.8	28 – 37	81.0	85 th -percentile speed downgraded 5 mph due to ped and bicycle safety and consistency with adjacent downtown segments
95	Washington Boulevard between Driscoll Rd and Paseo Padre Parkway	40	35	39.9	34.7	31 – 40	72.0	85 th -percentile speed downgraded due to uncontrolled crosswalk and corridor consistency
96	Washington Boulevard between Paseo Padre Parkway and Mission Blvd	40	35	34.5	29.1	26 - 35	69.2	85 th -percentile speed

Appendix

Engineering and Traffic Survey Forms

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

1

STREET: Ardenwood Boulevard
FROM: Union City Limit

SURVEY DATE: 5/9/2019
TO: Newark City Limit

SPEED DATA

Location of Speed Survey	Ardenwood Blvd 550' N/O Kaiser Drive	Posted Speed Limit	40 mph
Time of Speed Survey	9:00 AM - 9:35 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.8 mph	Speed Limit Change	Yes
85th Percentile Speed	41.6 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	33 - 42 mph		downgraded 5 mph due
Percentage of Vehicles in Pace	68.1%		to uncontrolled crosswalk
Number of Survey Samples	216		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	15
Collision Rate (ACC/MVM)	0.51
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	22,120
Type of Traffic Control	Traffic signals at Rancho Dr, Paseo Padre Pkwy, Commerce Dr, Kaiser Dr, Ardenwood Terrace, and 84 ramp
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	6393'
Width	83'
Number of Lanes	NB - 2/3 SB - 2/3
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Tan Oak Drive
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	Yes - at railroad overpass
Horizontal Curve	Yes - between Union City city limit and Paseo Padre Pkwy and between Newark city limit and Kaiser Dr
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Office, non-fronting residential, and park

COMMENTS

The 85th-percentile speed of 41.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

2

STREET: Auto Mall Parkway
FROM: Westerly End

SURVEY DATE: 3/23/2015
TO: Boyce Road

SPEED DATA

Location of Speed Survey	6028 Auto Mall Parkway	Posted Speed Limit	45 mph
Time of Speed Survey	11:45 AM - 1:00 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	40.2 mph	Speed Limit Change	Yes
85th Percentile Speed	43.8 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to bicycle safety
10 mph Pace Speed	36 - 45 mph		
Percentage of Vehicles in Pace	47.1%		
Number of Survey Samples	121		

COLLISION HISTORY

Number of Years Studied	4
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.37

TRAFFIC FACTORS

Average Daily Traffic	5164
Type of Traffic Control	Traffic signal at Boyce Rd
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3,753'
Width	88'
Number of Lanes	EB- 1/2 WB - 1/2
Street Classification	Arterial - minor
Divided Median?	Yes - only on east end
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - On south side only from approx 1000' west of Nobel Drive to Boyce Road
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and industrial

COMMENTS

The 85th-percentile speed of 43.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to bicycle safety, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

3

STREET: Beacon Avenue
FROM: Fremont Boulevard

SURVEY DATE: 5/23/2019
TO: Liberty Street

SPEED DATA

Location of Speed Survey	Beacon Ave 450' S/O Liberty Street	Posted Speed Limit	30 mph
Time of Speed Survey	12:15 PM - 1:25 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	27.0 mph	Speed Limit Change	Yes
85th Percentile Speed	31.3 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate, pedestrian activity and uncontrolled crosswalk
10 mph Pace Speed	23 - 32 mph		
Percentage of Vehicles in Pace	82.8%		
Number of Survey Samples	192		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	1.51
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	3,732
Type of Traffic Control	Traffic signal at Fremont Blvd, all way stop control at Liberty St and State St
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1706'
Width	50'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	None
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At California St
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Fremont Blvd and State St
Visibility	Moderate
Pavement Condition	Good
Adjacent Land Use	Commercial, offices, non-fronting residential, and apartments

COMMENTS

The 85th-percentile speed of 31.3 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 23 mph to 32 mph and the suggested speed limit is within this range. The collision rate for this segment is above the expected rate. Due to the high collision rate, pedestrian activity and uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

4

STREET: Blacow Road
FROM: Fremont Boulevard

SURVEY DATE: 5/29/2019
TO: Grimmer Boulevard

SPEED DATA

Location of Speed Survey	Blacow Rd 500' E/O Sherwood St	Posted Speed Limit	40 mph
Time of Speed Survey	2:30 PM - 3:45 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	37.6 mph	Speed Limit Change	Yes
85th Percentile Speed	41.4 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	34 - 43 mph		downgraded 5 mph due to high
Percentage of Vehicles in Pace	79.3%		collision rate, proximity to park,
Number of Survey Samples	111		fronting school, moderate
			pedestrian activity

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	16
Collision Rate (ACC/MVM)	1.60
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	14,280
Type of Traffic Control	Traffic signals at Grimmer Blvd, Greenpark Dr, Sherwood St, and Fremont Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3,370
Width	81'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Gatewood St
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, non-fronting residential, apartments, school, park, and library

COMMENTS

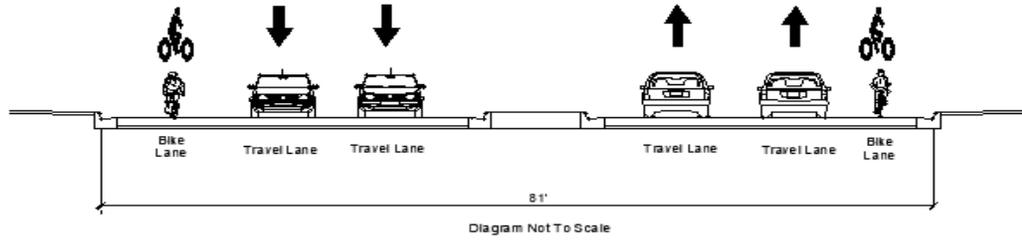
The 85th-percentile speed of 41.4 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate, moderate pedestrian activity, proximity to a park, and fronting Irvington High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Blacow Road

Limits: Fremont Boulevard to Grimmer Boulevard

**Typical
Cross-section**



Radars Survey Sheet

X = North / = South

	5	10	15	20	25	30			
60							0		
							0		
							0		
							0		
X							1	0.9%	100.0%
55							0		
							0		
							0		
							0		
50							0		
							0		
X							1	0.9%	99.1%
							0		
							0		
45	X						1	0.9%	98.2%
	X	X	X	X	/		6	5.4%	97.3%
	X	X	/	/			4	3.6%	91.9%
	X	X	X	X	/	/	6	5.4%	88.3%
	X	X	X	X	X	/	9	8.1%	82.9%
40	X	X	X	X	X	/	7	6.3%	74.8%
	X	X	X	X	X	X	16	14.4%	68.5%
	X	X	X	/	/	/	11	9.9%	54.1%
	X	X	X	X	X	/	11	9.9%	44.1%
hid	X	X	/	/	/	/	8	7.2%	34.2%
35	X	X	X	/	/	/	9	8.1%	27.0%
	X	X	/	/	/	/	7	6.3%	18.9%
	X	/					2	1.8%	12.6%
	X	X	X	X	/		5	4.5%	10.8%
	X	/					2	1.8%	6.3%
30							0		
	X	/	/				3	2.7%	4.5%
	/	/					2	1.8%	1.8%
							0		
							0		
25							0		
							0		
							0		
							0		
20							0		
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		
							0		

Total Samples = 111

85th Percentile Speed: 41.4 mph
50th Percentile Speed: 37.6 mph
15th Percentile Speed: 33.4 mph
10 MPH Pace: 34 - 43
Number in Pace: 88
Percent in Pace: 79.3%

Date of Survey: 5/29/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial
Field Study by: ATD / KHA

Start Time: 2:30 PM
End Time: 3:45 PM
Posted Speed: 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

5

STREET: Blacow Road
FROM: Grimmer Boulevard

SURVEY DATE: 5/28/2019
TO: Stevenson Boulevard

SPEED DATA

Location of Speed Survey	40583 Blacow Rd	Posted Speed Limit	40 mph
Time of Speed Survey	10:20 AM - 11:30 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	41.7 mph	Speed Limit Change	No
85th Percentile Speed	46.0 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	38 - 47 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	81.0%		moderate pedestrian activity
Number of Survey Samples	210		and proximity to school

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	6
Collision Rate (ACC/MVM)	0.36
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	17,272
Type of Traffic Control	Traffic signals at Stevenson Blvd, Hilo St, Omar St, Grimmer Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4650'
Width	71'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	No
Driveways?	None
Vertical Curve	No
Horizontal Curve	Slight - between Robin St and Grimmer Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, Business, non-fronting residential, apartments, school, park, and library

COMMENTS

The 85th-percentile speed of 46.0 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 38 mph to 47 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the moderate pedestrian activity and proximity to a school, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

6

STREET: Blacow Road
FROM: Stevenson Blvd

SURVEY DATE: 9/25/2019
TO: Mowry Ave

SPEED DATA

Location of Speed Survey	Blacow Rd 700' W/O Coco Palm Drive	Posted Speed Limit	40 mph
Time of Speed Survey	2:20 PM - 3:20 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.0 mph	Speed Limit Change	No
85th Percentile Speed	44.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting school
10 mph Pace Speed	36-45 mph		
Percentage of Vehicles in Pace	68.6%		
Number of Survey Samples	175		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	16
Collision Rate (ACC/MVM)	0.85
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	17,088
Type of Traffic Control	Traffic signals at Mowry Ave, Calaveras Ave, Coco Palm Dr, Boone Dr, Stevenson Blvd.
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5335'
Width	71'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	None
On-Street Parking?	Yes - at Stevenson E side
Sidewalks?	No
Driveways?	None
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, school

COMMENTS

The 85th-percentile speed of 44.7 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to fronting John F. Kennedy High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

7

STREET: Blacow Road
FROM: Mowry Ave

SURVEY DATE: 5/10/2019
TO: Central Ave

SPEED DATA

Location of Speed Survey	38323 Blacow Rd	Posted Speed Limit	40 mph
Time of Speed Survey	1:40 PM - 2:25 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.2 mph	Speed Limit Change	Yes
85th Percentile Speed	41.2 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalk
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	61.7%		
Number of Survey Samples	214		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	0.44
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	20,729
Type of Traffic Control	Traffic signals at Central Ave, Eggers Dr, Mowry Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5280'
Width	63'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	At Mattos Dr
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, and commercial

COMMENTS

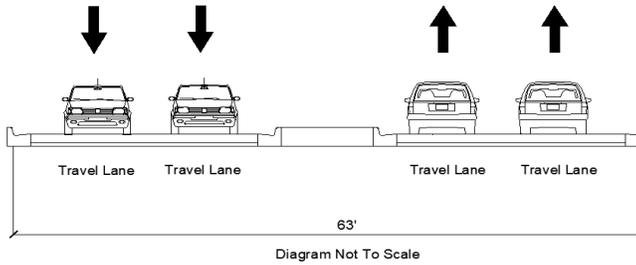
The 85th-percentile speed of 41.2 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Blacow Road

Limits: Mowry Ave to Central Ave

Typical Cross-section



Radars Survey Sheet

X = East / = West

	5	10	15	20	25	30			
60							0		
							0		
							0		
							0		
							0		
							0		
							0		
							0		
50	X						1	0.5%	100.0%
	X /						2	0.9%	99.5%
							0		
	X						1	0.5%	98.6%
	X						1	0.5%	98.1%
45	X /						2	0.9%	97.7%
	X X / / / / / / / /						9	4.2%	96.7%
	X X X X X / / / / /						8	3.7%	92.5%
	X X X X X / / / / /						10	4.7%	88.8%
	X X X X X X X / / /						10	4.7%	84.1%
40	X X X X X X X / / / / /						12	5.6%	79.4%
	X X X X / / / / /						8	3.7%	73.8%
	X X X X X X X / / / / /						12	5.6%	70.1%
	X X X X X X X / / / / / / / / / /						18	8.4%	64.5%
	X X X X X X X / / / / / / / / / /						17	7.9%	56.1%
35	X X X X X X X / / / / / / / / / /						15	7.0%	48.1%
	X X X X X X X X / / / / / / / /						16	7.5%	41.1%
	X X X X / / / / /						8	3.7%	33.6%
	X X X X X X X / / / / / / / /						14	6.5%	29.9%
	X X X X X X X / / / / / / / / / /						12	5.6%	23.4%
30	X X X X X X X X / / / / /						12	5.6%	17.8%
	X X X / / / / / / /						8	3.7%	12.1%
	X X / / / / /						6	2.8%	8.4%
	X X X / / / /						5	2.3%	5.6%
	X /						2	0.9%	3.3%
25	X X /						3	1.4%	2.3%
	X						1	0.5%	0.9%
	/						1	0.5%	0.5%
							0		
							0		
20							0		
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		
							0		

Total Samples = 214

85th Percentile Speed: 41.2 mph
 50th Percentile Speed: 35.2 mph
 15th Percentile Speed: 29.5 mph
 10 MPH Pace: 29 - 38
 Number in Pace: 132
 Percent in Pace: 61.7%

Date of Survey: 5/10/19
 Weather: Clear
 Pavement Condition: Good
 Street Class.: Arterial - minor
 Field Study by: ATD / KHA

Start Time: 1:40 PM
 End Time: 2:25 PM
 Posted Speed: 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

8

STREET: Blacow Road
FROM: Central Avenue

SURVEY DATE: 5/10/2019
TO: Thornton Avenue

SPEED DATA

Location of Speed Survey	Blacow Rd 180' W/O Hansen Way	Posted Speed Limit	35 mph
Time of Speed Survey	12:26 PM - 2:26 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.1 mph	Speed Limit Change	No
85th Percentile Speed	39.7 mph	Speed Justification	85th-percentile speed downgraded due to fronting residential
10 mph Pace Speed	31 - 40 mph		
Percentage of Vehicles in Pace	70.5%		
Number of Survey Samples	207		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	6
Collision Rate (ACC/MVM)	0.60
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	17,805
Type of Traffic Control	Traffic signal at Central Ave, Thornton Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2698'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	Yes - Discontinuous
Uncontrolled Crosswalks?	At Garden Way
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential and apartments

COMMENTS

The 85th-percentile speed of 39.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. The collision rate for this segment is below the expected rate. Due to fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

9

STREET: Business Center Drive/Technology Place
FROM: Grimmer Boulevard

SURVEY DATE: 5/30/2019
TO: Technology Drive

SPEED DATA

Location of Speed Survey	Business Center Dr 500' W/O Grimmer Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	1:15 PM - 3:10 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.7 mph	Speed Limit Change	No
85th Percentile Speed	43.5 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	35 - 44 mph		downgraded due to pace
Percentage of Vehicles in Pace	66.4%		speed
Number of Survey Samples	113		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	1
Collision Rate (ACC/MVM)	1.06
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	1,472
Type of Traffic Control	None
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3077'
Width	44'
Number of Lanes	EB - 1 WB - 1
Street Classification	Local
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Except on north side of street between Technology Dr and the 90 degree bend
Driveways?	Many
Vertical Curve	No
Horizontal Curve	Yes - at 4160 Business Center Drive
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Business

COMMENTS

The 85th-percentile speed of 43.5 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 35 mph to 44 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

10

STREET: Capitol Avenue
FROM: Paseo Padre Parkway

SURVEY DATE: 6/12/2019
TO: State Street

SPEED DATA

Location of Speed Survey	Capitol Ave 100' E/O Liberty St	Posted Speed Limit	No Posted Speed
Time of Speed Survey	11:05 AM - 1:05 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	18.2 mph	Speed Limit Change	Yes
85th Percentile Speed	23.3 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	15 - 24 mph		
Percentage of Vehicles in Pace	84.1%		
Number of Survey Samples	107		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	3
Collision Rate (ACC/MVM)	1.80
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	4,906
Type of Traffic Control	Traffic signal at Paseo Padre Pkwy ; Stop sign at State St, Liberty Ave, Hastings St,
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1637'
Width	70'
Number of Lanes	NB -1 SB - 1
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	None
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	None
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and office

COMMENTS

The 85th-percentile speed of 23.3 mph indicates a 25 mph speed limit. The 10 mph pace ranges from 15 mph to 24 mph and the suggested speed limit is above this range. The collision rate for this segment is above the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit is 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

STREET: Central Avenue
FROM: Fremont Boulevard

SURVEY DATE: 11/5/2019
TO: Blacow Road

SPEED DATA

Location of Speed Survey	Central Ave 370' S/O Willowood Dr	Posted Speed Limit	35 mph
Time of Speed Survey	10:50 AM - 11:40 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.0 mph	Speed Limit Change	No
85th Percentile Speed	38.7 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalks and fronting residential
10 mph Pace Speed	28 - 37 mph		
Percentage of Vehicles in Pace	67.5%		
Number of Survey Samples	234		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	12
Collision Rate (ACC/MVM)	0.71
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	15,418
Type of Traffic Control	Traffic signals at Blacow Rd, Glenmoor Dr, Logan Dr, Dusterberry Way, and Fremont Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5315'
Width	80'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Joseph St and Teakwood Dr
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	None
Horizontal Curve	Slight - by Glenmoor
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, commercial, apartments, and church

COMMENTS

The 85th-percentile speed of 38.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit is above this range. The collision rate for this segment is below the expected rate. Due to uncontrolled crosswalks and fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

12

STREET: Central Avenue
FROM: Blacow Road

SURVEY DATE: 5/10/2019
TO: I-880

SPEED DATA

Location of Speed Survey	250' S/O Carriage Cir Common	Posted Speed Limit	40 mph
Time of Speed Survey	1:05 PM - 1:34 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	38.0 mph	Speed Limit Change	No
85th Percentile Speed	42.4 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	34 - 43 mph		
Percentage of Vehicles in Pace	78.0%		
Number of Survey Samples	214		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.70
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	16,323
Type of Traffic Control	Traffic signals at Farwell Dr and Blacow Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2110'
Width	80'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial-minor
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - On east side of street between Centralmont Pl and Farwell Dr
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, commercial, and cemetery

COMMENTS

The 85th-percentile speed of 42.4 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

13

STREET: Civic Center Drive
FROM: Mowry Avenue

SURVEY DATE: 11/1/2019
TO: Stevenson Drive

SPEED DATA

Location of Speed Survey	Civic Center Dr 400' E/O Bart Way	Posted Speed Limit	30 mph
Time of Speed Survey	11:00 AM - 11:25 AM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	24.9 mph	Speed Limit Change	Yes
85th Percentile Speed	29.0 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalks, high pedestrian activity and downtown land uses
10 mph Pace Speed	21 - 30 mph		
Percentage of Vehicles in Pace	83.3%		
Number of Survey Samples	114		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	1.36
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	10,509
Type of Traffic Control	Traffic signals at Mowry, Bart Way, Walnut Ave and Stevenson Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3370'
Width	70'-90'
Number of Lanes	EB - 1 WB - 1
Street Classification	Collector
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	at Kaiser Driveway and Washington Hospital Entrance
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, business, office, hospital, and park

COMMENTS

The 85th-percentile speed of 29 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 21 mph to 30 mph and the suggested speed limit falls within this range. The collision rate for this segment is equal to the expected rate. Due to uncontrolled crosswalks, high pedestrian activity and downtown land uses, a downgrading of the speed limit is justified. Therefore, it is recommended that the posted speed limit decrease to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

14

STREET: Country Drive
FROM: Fremont Boulevard

SURVEY DATE: 5/14/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	120' N/O Country Terrace	Posted Speed Limit	30 mph
Time of Speed Survey	12:50 PM - 1:45 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	30.8 mph	Speed Limit Change	No
85th Percentile Speed	36.8 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	26 - 35 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	73.0%		high pedestrian activity and
Number of Survey Samples	115		proximity to school

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	0.93
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	3,907
Type of Traffic Control	Traffic signals at Fremont Blvd and Paseo Padre Pkwy; stop signs at Lexington St and Hastings St
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2668'
Width	64'
Number of Lanes	EB - 2 WB -2
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, commercial, and school

COMMENTS

The 85th-percentile speed of 36.8 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 26 mph to 35 mph and the suggested speed limit falls within this range. The collision rate for this segment is below the expected rate. Due to the high pedestrian activity and proximity to Washington High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

15

STREET: Country Drive
FROM: Paseo Padre Parkway

SURVEY DATE: 5/14/2019
TO: Stivers Street

SPEED DATA

Location of Speed Survey	250' S/O Bronson St	Posted Speed Limit	30 mph
Time of Speed Survey	11:40 AM - 12:40 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	32.2 mph	Speed Limit Change	No
85th Percentile Speed	35.5 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high pedestrian activity, proximity to retirement community, and high collision rate
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	99.0%		
Number of Survey Samples	101		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	1
Collision Rate (ACC/MVM)	1.77
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	2,881
Type of Traffic Control	Traffic signal at Paseo Padre Pkwy
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	945
Width	64'
Number of Lanes	EB - 2 WB - 2
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Paseo Padre Pkwy and Stivers St
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, and retirement community

COMMENTS

The 85th-percentile speed of 35.5 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit falls within this range. The collision rate for this segment is higher than expected rate. Due to the high pedestrian activity, proximity to a retirement community, and a higher than expected collision rate, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

16

STREET: Driscoll Road
FROM: Mission Boulevard

SURVEY DATE: 5/22/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	75' N/O Harrington St	Posted Speed Limit	40 mph
Time of Speed Survey	1:50 PM - 2:20 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	36.7 mph	Speed Limit Change	Yes
85th Percentile Speed	42.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting school, fronting residential, uncontrolled crosswalks, and high pedestrian activity
10 mph Pace Speed	33 - 42 mph		
Percentage of Vehicles in Pace	68.0%		
Number of Survey Samples	175		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	7
Collision Rate (ACC/MVM)	0.58
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	14,934
Type of Traffic Control	Traffic signals at Mission Blvd, Amapola Dr, and Paseo Padre Pkwy
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3923'
Width	84'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At St. Anthony Dr, Chiltern Dr, and Durillo Dr, Creek Trail midblock
On-Street Parking?	Yes - between Amapola Dr and St. Anthony Dr
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential and school

COMMENTS

The 85th-percentile speed of 42.4 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to fronting Hopkins Junior High School, fronting residential, uncontrolled crosswalks, and high pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to decrease to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

17

STREET: Driscoll Road
FROM: Paseo Padre Parkway

SURVEY DATE: 10/29/2019
TO: Washington Boulevard

SPEED DATA

Location of Speed Survey	Driscoll Rd 100' N/O Denise St	Posted Speed Limit	40 mph
Time of Speed Survey	1:15 PM - 2:15 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.2 mph	Speed Limit Change	No
85th Percentile Speed	42.5 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting residential and uncontrolled crosswalk
10 mph Pace Speed	34 - 43 mph		
Percentage of Vehicles in Pace	74.2%		
Number of Survey Samples	217		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	6
Collision Rate (ACC/MVM)	0.52
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	16,319
Type of Traffic Control	Traffic Signal at Washington Blvd, Paseo Padre Parkway
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3409'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Joyce Ave
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	Yes - Near Joyce
Horizontal Curve	Yes - Near Washington Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, and commercial

COMMENTS

The 85th-percentile speed of 42.5 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit falls above this range. The collision rate is below the expected rate. Due to the fronting residential and the uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

18

STREET: Fremont Boulevard
FROM: Beard Road

SURVEY DATE: 5/9/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	390' E/O Beard Rd	Posted Speed Limit	40 mph
Time of Speed Survey	11:13 AM - 11:56 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	32.8 mph	Speed Limit Change	Yes
85th Percentile Speed	38.7 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	28 - 37 mph		downgraded due to pace
Percentage of Vehicles in Pace	66.5%		speed
Number of Survey Samples	221		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	0.70
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	41,637
Type of Traffic Control	Traffic signal at Enea Common, Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1650'
Width	106'
Number of Lanes	EB - 3 WB - 3
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Poor
Adjacent Land Use	Fronting and non-fronting residential, apartments, and commercial

COMMENTS

The 85th-percentile speed of 38.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to pace speed, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

19

STREET: Fremont Boulevard
FROM: Paseo Padre Parkway

SURVEY DATE: 5/9/2019
TO: Decoto Road

SPEED DATA

Location of Speed Survey	475' E/O Ferry Lane	Posted Speed Limit	40 mph
Time of Speed Survey	12:41 PM - 1:26 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	37.3 mph	Speed Limit Change	Yes
85th Percentile Speed	41.2 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to moderate pedestrian activity
10 mph Pace Speed	33-42 mph		
Percentage of Vehicles in Pace	68.9%		
Number of Survey Samples	219		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.35
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	23,376
Type of Traffic Control	Traffic signal at Paseo Padre Pkwy, Darwin Dr, Ferry Ln, Decoto Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2930'
Width	107'
Number of Lanes	NB -2/3 SB -2/3
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes
Driveways?	None
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, apartments, business, church, and commercial

COMMENTS

The 85th-percentile speed of 41.2 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to moderate pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

20

STREET: Fremont Boulevard
FROM: Decoto Road

SURVEY DATE: 11/25/2019
TO: Thornton Avenue

SPEED DATA

Location of Speed Survey	Between Decoto Rd and Thornton Ave	Posted Speed Limit	40 mph
Time of Speed Survey	1:06 PM - 2:42 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.1 mph	Speed Limit Change	Yes
85th Percentile Speed	40.9 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting school
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	65.7%		
Number of Survey Samples	207		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	34
Collision Rate (ACC/MVM)	0.95
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	24,575
Type of Traffic Control	Traffic signal at Decoto Rd, Tamayo St, Nicolet Ave, Gibraltar Dr, Alder Ave, and Thornton Ave.
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	7050'
Width	90'-107'
Number of Lanes	NB -2/3 SB -2/3
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, apartments, business, school, and commercial

COMMENTS

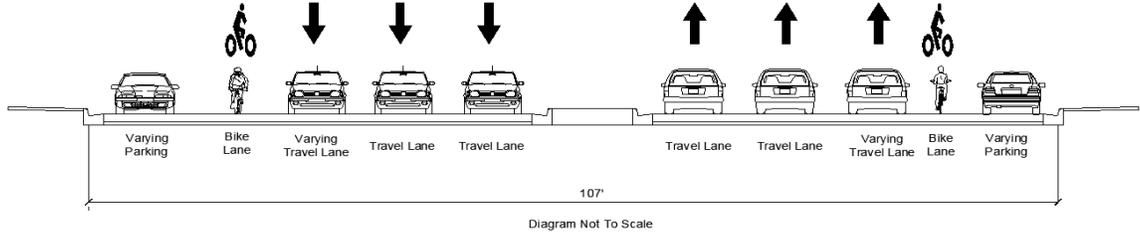
The 85th-percentile speed of 40.9 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to fronting American High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit be decreased to 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Fremont Boulevard

Limits: Decoto Road to Thornton Avenue

**Typical
Cross-section**



Radar Survey Sheet

X = North / = South

	5	10	15	20	25	30			
61							1	0.5%	100.0%
60							0		
							0		
							0		
							0		
55							0		
							0		
							0		
/							1	0.5%	99.5%
50							1	0.5%	99.0%
/							0		
/ / /							3	1.4%	98.6%
X /							2	1.0%	97.1%
/							1	0.5%	96.1%
45							3	1.4%	95.7%
X / / /							4	1.9%	94.2%
X / / / / / / / /							9	4.3%	92.3%
X / / / / / / / /							5	2.4%	87.9%
X X / / / / / / / /							10	4.8%	85.5%
40							6	2.9%	80.7%
X X X X / / / / / / / /							13	6.3%	77.8%
X X X X X X X / / / / / / / / / / / /							16	7.7%	71.5%
X X X / / / / / / / /							10	4.8%	63.8%
X X X X X X X X X X / / / / / / / / / / / /							20	9.7%	58.9%
35							16	7.7%	49.3%
X X X X X X X X X X / / / / / / / / / / / /							16	7.7%	41.5%
X X X X X / / / / / / / /							10	4.8%	33.8%
X X X X X X X X / / / /							11	5.3%	29.0%
X X X X X X / /							8	3.9%	23.7%
30							16	7.7%	19.8%
X X X X X X X X X X X X X / / / /							10	4.8%	12.1%
X X X X X X X X X /							8	3.9%	7.2%
X							1	0.5%	3.4%
X X X							3	1.4%	2.9%
25							2	1.0%	1.4%
X X							1	0.5%	0.5%
X							0		
							0		
							0		
20							0		
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		
							0		

Total Samples = 207

85th Percentile Speed: 40.9 mph
50th Percentile Speed: 35.1 mph
15th Percentile Speed: 29.4 mph
10 MPH Pace: 30 - 39
Number in Pace: 136
Percent in Pace: 65.7%

Date of Survey: 11/25/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - primary
Field Study by: City of Fremont

Start Time: 1:06 PM
End Time: 2:42 PM
Posted Speed: 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

21

STREET: Fremont Boulevard
FROM: Thornton Avenue

SURVEY DATE: 1/24/2020
TO: Peralta Boulevard

SPEED DATA

Location of Speed Survey	37167 Fremont Blvd	Posted Speed Limit	30 mph
Time of Speed Survey	2:06 PM - 2:59 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	28.6 mph	Speed Limit Change	No
85th Percentile Speed	33.3 mph	Speed Justification	85th-percentile speed downgraded 5 due to pace speed and uncontrolled crosswalk
10 mph Pace Speed	24-33 mph		
Percentage of Vehicles in Pace	77.8%		
Number of Survey Samples	203		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	0.48
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	23,652
Type of Traffic Control	Traffic signal at Thornton Avenue, Peralta Boulevard
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1700'
Width	62'
Number of Lanes	NB -2 SB -2
Street Classification	Arterial - primary
Divided Median?	Two way left turn
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	Yes - Bonde Way
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Business and commercial

COMMENTS

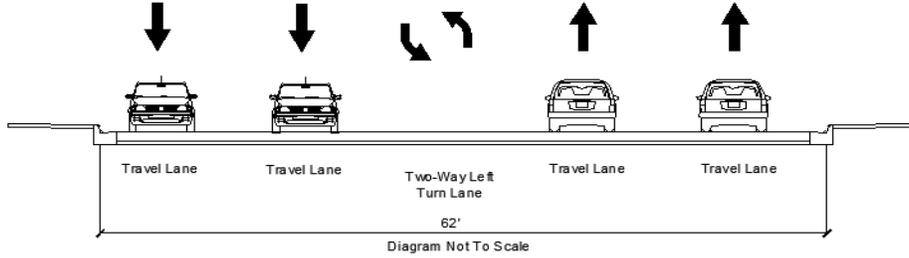
The 85th-percentile speed of 33.3 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 24 mph to 33 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed and uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remain at 30 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Fremont Boulevard

Limits: Thornton Avenue to Peralta Boulevard

Typical Cross-section



Radar Survey Sheet

X = North / = South

	5	10	15	20	25	30												
61							0											
60							0											
							0											
							0											
							0											
55							0											
							0											
							0											
							0											
50	/						1	0.5%	100.0%									
							0											
							0											
45							0											
							0											
							0											
	X	X					2	1.0%	99.5%									
	/						1	0.5%	98.5%									
40	/						1	0.5%	98.0%									
							0											
	/						1	0.5%	97.5%									
	X	/	/	/			4	2.0%	97.0%									
	/	/	/	/			4	2.0%	95.1%									
35	X	X	X	X	X	X	X	/	/	/	/		12	5.9%	93.1%			
	X	X	X	X	X	/							6	3.0%	87.2%			
	X	X	X	X	X	/	/	/					8	3.9%	84.2%			
	X	X	X	X	X	X	X	X	/	/	/	/	13	6.4%	80.3%			
	X	X	X	X	X	X	X	/	/	/	/	/	17	8.4%	73.9%			
30	X	X	X	X	X	X	X	X	/	/	/	/	/	/	/	24	11.8%	65.5%
	X	X	X	X	X	X	X	X	/	/	/	/	/	/	/	20	9.9%	53.7%
	X	X	X	X	X	X	X	X	X	/	/	/	/	/	/	20	9.9%	43.8%
	X	X	X	X	X	X	X	X	X	X	X	X	X	/	/	23	11.3%	34.0%
	X	X	X	X	X	X	/	/	/	/	/	/				14	6.9%	22.7%
25	X	X	X	X	X	/	/						8	3.9%	15.8%			
	X	X	/	/	/	/	/	/	/				11	5.4%	11.8%			
	X	/	/	/	/	/	/						7	3.4%	6.4%			
	X	X	X	X	/								5	2.5%	3.0%			
	X												1	0.5%	0.5%			
20													0					
													0					
													0					
													0					
15													0					
													0					
													0					
													0					
10													0					

Total Samples = 203

85th Percentile Speed: 33.3 mph
50th Percentile Speed: 28.6 mph
15th Percentile Speed: 24.8 mph
10 MPH Pace: 24-33
Number in Pace: 158
Percent in Pace: 77.8%

Date of Survey: 1/24/20
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - primary
Field Study by: City of Fremont

Start Time: 2:06 PM
End Time: 2:59 PM
Posted Speed: 30 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

22

STREET: Fremont Boulevard
FROM: Peralta Boulevard

SURVEY DATE: 5/10/2019
TO: Central Avenue

SPEED DATA

Location of Speed Survey	37427 Fremont Blvd	Posted Speed Limit	30 mph
Time of Speed Survey	10:12 AM - 10:35 AM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	28.9 mph	Speed Limit Change	No
85th Percentile Speed	33.0 mph	Speed Justification	85th-percentile speed, downgraded 5 mph due to high collision rate and town center land uses
10 mph Pace Speed	25 - 34 mph		
Percentage of Vehicles in Pace	81.3%		
Number of Survey Samples	230		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	18
Collision Rate (ACC/MVM)	3.45
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	23,660
Type of Traffic Control	Traffic signal at Peralta Blvd and Central Ave
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1062'
Width	65'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - primary
Divided Median?	Yes - between Central Ave and Parish Ave
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Parish Ave
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, commercial, church, and school

COMMENTS

The 85th-percentile speed of 33.0 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 25 mph to 34 mph and the suggested speed limit is above this range. The collision rate is above the expected rate. Due to the higher than expected collision rate and town center land uses, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Fremont Boulevard

Limits: Peralta Boulevard to Central Avenue

Typical Cross-section

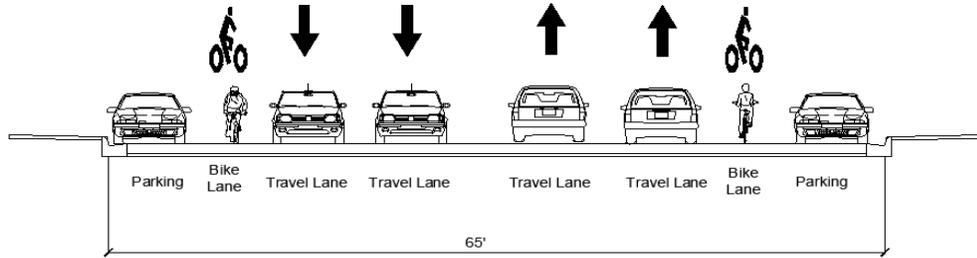


Diagram Not To Scale

Radars Survey Sheet

X = North / = South

	5	10	15	20	25	30			
60								0	
								0	
								0	
								0	
								0	
55								0	
								0	
								0	
								0	
								0	
50								0	
								0	
								0	
								0	
								0	
45								0	
								0	
								0	
								0	
								0	
	X							1	0.4%
								0	
								0	
40	X							1	0.4%
	X							1	0.4%
	X	/						2	0.9%
	X	X	X	X	X	X	/	10	4.3%
	/	/	/					3	1.3%
35	X	X	/	/	/			5	2.2%
	X	X	X	X	X	X	/	12	5.2%
	X	X	X	X	X	X	/	15	6.5%
	X	X	X	X	X	X	/	16	7.0%
	X	X	X	X	X	X	X	23	10.0%
30	X	X	X	X	X	X	X	21	9.1%
	X	X	X	X	X	X	X	34	14.8%
	X	X	X	X	X	X	X	27	11.7%
	X	X	X	X	X	X	/	20	8.7%
	X	X	X	X	X	/	/	8	3.5%
25	X	X	/	/	/	/	/	11	4.8%
	X	X	X	/	/	/	/	9	3.9%
	X	/	/	/				4	1.7%
	X	X	/					3	1.3%
	/							1	0.4%
20	X							1	0.4%
								0	
								0	
	X	X						2	0.9%
								0	
15								0	
								0	
								0	
								0	
10								0	

Total Samples = 230

85th Percentile Speed: 33.0 mph
 50th Percentile Speed: 28.9 mph
 15th Percentile Speed: 25.4 mph
 10 MPH Pace: 25 - 34
 Number in Pace: 187
 Percent in Pace: 81.3%

Date of Survey: 5/10/19
 Weather: Clear
 Pavement Condition: Good
 Street Class.: Arterial - primary
 Field Study by: ATD / KHA

Start Time: 10:12 AM
 End Time: 10:35 AM
 Posted Speed: 30 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

23

STREET: Fremont Boulevard
FROM: Central Avenue

SURVEY DATE: 9/24/2019
TO: Mowry Avenue

SPEED DATA

Location of Speed Survey	38246 Fremont Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	9:15 AM - 10:15 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	36.0 mph	Speed Limit Change	No
85th Percentile Speed	39.8 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting schools
10 mph Pace Speed	32 - 41 mph		
Percentage of Vehicles in Pace	88.0%		
Number of Survey Samples	208		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	33
Collision Rate (ACC/MVM)	0.98
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	30,493
Type of Traffic Control	Traffic signal at Central Ave, Eggers Dr, Country Dr, and Mowry Ave
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5305'
Width	80'
Number of Lanes	NB -2 SB - 2
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Norris Rd and Mattos Dr
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, apartments, commercial, and school

COMMENTS

The 85th-percentile speed of 39.8 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 32 mph to 41 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to fronting Centerville Junior High School and Washington High School, a downgrading of 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

24

STREET: Fremont Boulevard
FROM: Mowry Avenue

SURVEY DATE: 11/4/2019
TO: Stevenson Boulevard

SPEED DATA

Location of Speed Survey	Between Capitol Ave and Beacon Ave	Posted Speed Limit	40 mph
Time of Speed Survey	10:30 AM - 11:10 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.7 mph	Speed Limit Change	Yes
85th Percentile Speed	37.6 mph	Speed Justification	85th-percentile speed downgraded due to pace speed, moderate bicycle and pedestrian activity, and downtown land uses
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	81.9%		
Number of Survey Samples	210		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	29
Collision Rate (ACC/MVM)	1.00
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	26,448
Type of Traffic Control	Traffic signal at Mowry Ave, Shopping Ctr, Beacon Ave, Walnut Ave, Sundale Dr, Bidwell Dr, and Stevenson Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5305'
Width	110'
Number of Lanes	EB -3 WB - 3
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, non-fronting residential, and apartments

COMMENTS

The 85th-percentile speed of 37.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed, moderate bicycle and pedestrian activity, and downtown land uses, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

25

STREET: Fremont Boulevard
FROM: Stevenson Boulevard

SURVEY DATE: 5/30/2019
TO: Grimmer Boulevard

SPEED DATA

Location of Speed Survey	40453 Fremont Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	12:05 PM - 12:51 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	37.0 mph	Speed Limit Change	No
85th Percentile Speed	41.1 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the high pedestrian activity and uncontrolled crosswalk
10 mph Pace Speed	34 - 43 mph		
Percentage of Vehicles in Pace	90.0%		
Number of Survey Samples	210		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	17
Collision Rate (ACC/MVM)	0.89
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	34,592
Type of Traffic Control	Traffic signal at Stevenson Blvd, Mission View Blvd, Eugene St, Grimmer Blvd.
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2674'
Width	66'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Margery Drive
On-Street Parking?	No
Sidewalks?	No
Driveways?	None
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, and school

COMMENTS

The 85th-percentile speed of 41.1 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the high pedestrian activity and uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

26

STREET: Fremont Boulevard
FROM: Grimmer Boulevard

SURVEY DATE: 5/28/2019
TO: Washington Boulevard

SPEED DATA

Location of Speed Survey	40860 Fremont Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	9:00 AM - 9:51 AM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	30.2 mph	Speed Limit Change	Yes
85th Percentile Speed	34.0 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	26 - 35 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	84.2%		high pedestrian activity, town
Number of Survey Samples	183		center land uses and
			uncontrolled crosswalk

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	25
Collision Rate (ACC/MVM)	1.52
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	35,148
Type of Traffic Control	Traffic signal at Grimmer Blvd, Chapel Wy, and Washington Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2261'
Width	80'
Number of Lanes	EB-2 WB - 2
Street Classification	Arterial - primary
Divided Median?	Yes - Discontinuous and TWLTL
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Clough Ave
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, and commercial

COMMENTS

The 85th-percentile speed of 34.0 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 26 mph to 35 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to high pedestrian activity, town center land uses and uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

27

STREET: Fremont Blvd
FROM: Washington Blvd

SURVEY DATE: 11/13/2019
TO: Blacow Rd

SPEED DATA

Location of Speed Survey	Between Adams Ave and Carol Ave	Posted Speed Limit	40 mph
Time of Speed Survey	1:30 PM - 2:05 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	32.3 mph	Speed Limit Change	Yes
85th Percentile Speed	36.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to pedestrian and bicycle safety and to be consistent with the adjacent town center segments
10 mph Pace Speed	28 - 37 mph		
Percentage of Vehicles in Pace	75.8%		
Number of Survey Samples	231		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	11
Collision Rate (ACC/MVM)	0.91
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	17,820
Type of Traffic Control	Traffic signals at Washington Blvd, Irvington Ave, Carol Ave, Blacow Rd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3268'
Width	82'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - primary
Divided Median?	Yes - Except north from Irvington-Washington
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - EB near Adams Ave only
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential and commercial

COMMENTS

The 85th-percentile speed of 36.6 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to pedestrian and bicycle safety and to be consistent with the adjacent town center segments, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the speed limit decreases to 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

28

STREET: Fremont Blvd
FROM: Blacow Rd

SURVEY DATE: 5/30/2019
TO: Auto Mall Pkwy

SPEED DATA

Location of Speed Survey	Fremont Blvd 150' N/O Glenwood St	Posted Speed Limit	40 mph
Time of Speed Survey	9:45 AM - 11:20 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	41.1 mph	Speed Limit Change	No
85th Percentile Speed	46.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to uncontrolled crosswalks
10 mph Pace Speed	38 - 47 mph		
Percentage of Vehicles in Pace	60.5%		
Number of Survey Samples	119		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	17
Collision Rate (ACC/MVM)	0.83
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	20,762
Type of Traffic Control	Traffic signals at Blacow Rd, Delaware Dr, and Auto Mall Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4761'
Width	70'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - primary
Divided Median?	Two-way left-turn lane
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	At Michael Ave, Crestwood St, and Doane St
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	None
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential and commercial

COMMENTS

The 85th-percentile speed of 46.7 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 38 mph to 47 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalks, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

29

STREET: Fremont Boulevard
FROM: Auto Mall Parkway

SURVEY DATE: 5/24/2019
TO: S Grimmer Boulevard

SPEED DATA

Location of Speed Survey	44238 Fremont Blvd	Posted Speed Limit	45 mph
Time of Speed Survey	10:45 AM - 12:15 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	41.3 mph	Speed Limit Change	Yes
85th Percentile Speed	47.2 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to bicyclist safety and corridor consistency
10 mph Pace Speed	36 - 45 mph		
Percentage of Vehicles in Pace	65.9%		
Number of Survey Samples	132		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.36
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	19,106
Type of Traffic Control	Signals at Auto Mall Pkwy, Ice House Terrace, Old Warm Springs Blvd, Grimmer Blvd
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3550'
Width	86'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - discontinuous on both sides
Driveways?	Few
Vertical Curve	None
Horizontal Curve	At Old Warm Springs Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Office

COMMENTS

The 85th-percentile speed of 47.2 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to bicyclist safety and to be consistent with adjacent corridors, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

30

STREET: Fremont Boulevard
FROM: S Grimmer Boulevard

SURVEY DATE: 5/24/2019
TO: I-880

SPEED DATA

Location of Speed Survey	190' S/O Ingot St	Posted Speed Limit	45 mph
Time of Speed Survey	10:50 AM - 12:35 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.3 mph	Speed Limit Change	Yes
85th Percentile Speed	42.2 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	33 - 42 mph		
Percentage of Vehicles in Pace	73.4%		
Number of Survey Samples	109		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	19
Collision Rate (ACC/MVM)	1.02
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	27,664
Type of Traffic Control	Signals at Grimmer Blvd, Industrial Dr, and I-880 NB Ramp
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3235'
Width	85' - 102'
Number of Lanes	NB - 2 SB - 2/3
Street Classification	Arterial - primary
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - discontinuous
Driveways?	Few
Vertical Curve	At I-880 overpass
Horizontal Curve	At Old Warm Springs Blvd and near I-880
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, Business

COMMENTS

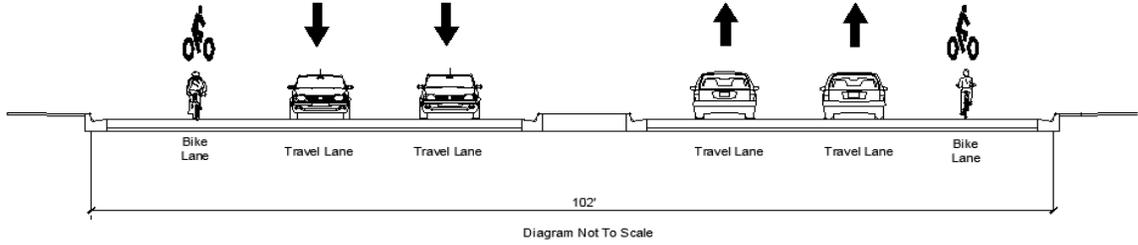
The 85th-percentile speed of 42.2 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit to be decreased to 40 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Fremont Boulevard

Limits: S Grimmer Boulevard to I-880

**Typical
Cross-section**



Radar Survey Sheet

X = North / = South

	5	10	15	20	25	30				
60	/							1	0.9%	100.0%
								0		
								0		
								0		
								0		
55								0		
								0		
								0		
								0		
50	/							1	0.9%	99.1%
	/							1	0.9%	98.2%
								0		
	/							1	0.9%	97.2%
	X / /							3	2.8%	96.3%
45								0		
	X X / / / / /							7	6.4%	93.6%
	X X X							3	2.8%	87.2%
	X X X X / / / / / / /							11	10.1%	84.4%
	X X X / / /							6	5.5%	74.3%
40	X X X X X / /							7	6.4%	68.8%
	X X / / / / /							8	7.3%	62.4%
	X X X X X X / /							8	7.3%	55.0%
	X X X X X X / / / /							11	10.1%	47.7%
	X X X X X / / / /							10	9.2%	37.6%
35	X X X / / /							6	5.5%	28.4%
	X X X X X / / /							8	7.3%	22.9%
	X X X / /							5	4.6%	15.6%
	X X X / /							5	4.6%	11.0%
	X /							2	1.8%	6.4%
30	X							1	0.9%	4.6%
								0		
	X /							2	1.8%	3.7%
								0		
								0		
25								0		
	X /							2	1.8%	1.8%
								0		
								0		
								0		
20								0		
								0		
								0		
								0		
15								0		
								0		
								0		
								0		
10								0		
								0		

Total Samples = 109

85th Percentile Speed: 42.2 mph
50th Percentile Speed: 37.3 mph
15th Percentile Speed: 32.9 mph
10 MPH Pace: 33 - 42
Number in Pace: 80
Percent in Pace: 73.4%

Date of Survey: 5/24/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - primary
Field Study by: ATD / KHA

Start Time: 10:50 AM
End Time: 12:35 PM
Posted Speed: 45 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

31

STREET: Fremont Boulevard
FROM: I-880

SURVEY DATE: 5/29/2019
TO: Warren Avenue

SPEED DATA

Location of Speed Survey	46560 Fremont Blvd	Posted Speed Limit	45 mph
Time of Speed Survey	11:25 AM - 12:25 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	41.4 mph	Speed Limit Change	Yes
85th Percentile Speed	46.3 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	36 - 45 mph		downgraded due to pace
Percentage of Vehicles in Pace	70.2%		speed
Number of Survey Samples	124		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	6
Collision Rate (ACC/MVM)	0.29
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	22,624
Type of Traffic Control	Traffic signal at Warren Ave, Landing Pkwy and Cushing Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4480'
Width	67'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes - discontinuous and TWLTL
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and business

COMMENTS

The 85th-percentile speed of 46.3 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the pace speed, a downgrading of the speed limit is justified. Therefore, it is recommended that the posted speed limit decrease to 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

32

STREET: Fremont Boulevard
FROM: Warren Avenue

SURVEY DATE: 5/29/2019
TO: Lakeview Boulevard

SPEED DATA

Location of Speed Survey	47971 Fremont Blvd	Posted Speed Limit	45 mph
Time of Speed Survey	12:40 PM - 1:50 PM	Recommended Speed Limit	45 mph
50th Percentile Speed (Mean Speed)	43.1 mph	Speed Limit Change	No
85th Percentile Speed	49.9 mph	Speed Justification	85th-percentile speed downgraded due to the pace speed and uncontrolled crosswalk
10 mph Pace Speed	38 - 47 mph		
Percentage of Vehicles in Pace	56.5%		
Number of Survey Samples	131		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	0.36
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	17,643
Type of Traffic Control	Traffic Signal at Warren Ave and Gateway Blvd
Pedestrian Traffic	Low
Truck Traffic	High

ROADWAY CHARACTERISTICS

Length of Segment	7573'
Width	66'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Bayview Dr
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Clipper Ct. and Spinnaker Ct.
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Business

COMMENTS

The 85th-percentile speed of 49.9 mph indicates a 50 mph speed limit. The 10 mph pace ranges from 38 mph to 47 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed and uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 45 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

33

STREET: Fremont Boulevard
FROM: Lakeview Boulevard

SURVEY DATE: 5/29/2019
TO: Dixon Landing Road

SPEED DATA

Location of Speed Survey	49088 Fremont Blvd	Posted Speed Limit	45 mph
Time of Speed Survey	12:50 PM - 2:00 PM	Recommended Speed Limit	45 mph
50th Percentile Speed (Mean Speed)	44.8 mph	Speed Limit Change	No
85th Percentile Speed	51.5 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to bicyclist safety and pace speed
10 mph Pace Speed	40 - 49 mph		
Percentage of Vehicles in Pace	68.4%		
Number of Survey Samples	117		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	3
Collision Rate (ACC/MVM)	0.20
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	18,112
Type of Traffic Control	Traffic signal at Dixon Landing
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3960'
Width	70'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - 1,000 ft north of Dixon Landing Rd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Business

COMMENTS

The 85th-percentile speed of 51.5 mph indicates a 50 mph speed limit. The 10 mph pace ranges from 40 mph to 49 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed and bicyclist safety, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 45 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

34

STREET: Gallaudet Dr
FROM: Walnut Avenue

SURVEY DATE: 5/14/2019
TO: Stevenson Boulevard

SPEED DATA

Location of Speed Survey	150' N/O Del Oro Terraza	Posted Speed Limit	35 mph
Time of Speed Survey	10:15 AM - 11:15 AM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	28.8 mph	Speed Limit Change	Yes
85th Percentile Speed	31.9 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	25 - 34 mph		
Percentage of Vehicles in Pace	86.7%		
Number of Survey Samples	105		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	3
Collision Rate (ACC/MVM)	0.90
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	4,482
Type of Traffic Control	Traffic signals at Stevenson Blvd and Walnut Ave.
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2392'
Width	52'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	Yes- Between Stevenson Blvd and Del Oro Teraza
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Apartments, school for the deaf, school for the blind, and church

COMMENTS

The 85th-percentile speed of 31.9 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 25 mph to 34 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit be decreased to 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

35

STREET: Grimmer Boulevard (South)
FROM: Paseo Padre Parkway

SURVEY DATE: 5/28/2019
TO: Osgood Road

SPEED DATA

Location of Speed Survey	250' W/O I-680 Underpass	Posted Speed Limit	40 mph
Time of Speed Survey	12:15 PM - 1:45 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.2 mph	Speed Limit Change	Yes
85th Percentile Speed	38.9 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to pace speed and pedestrian activity
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	76.2%		
Number of Survey Samples	105		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	0.32
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	10,426
Type of Traffic Control	Traffic Signal at Osgood Rd; stop sign at Parkmeadow Dr and Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2880'
Width	40'
Number of Lanes	EB - 1 WB - 1
Street Classification	Arterial - minor
Divided Median?	No
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	None
Vertical Curve	Yes - at Underpass and West of Paseo Padre Pkwy
Horizontal Curve	Yes - at Underpass
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential

COMMENTS

The 85th-percentile speed of 38.9 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed and pedestrian activity, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

36

STREET: Grimmer Boulevard
FROM: Osgood Road

SURVEY DATE: 5/28/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	800' E/O Fremont Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	1:55 PM - 3:30 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.3 mph	Speed Limit Change	No
85th Percentile Speed	43.8 mph	Speed Justification	85th-percentile speed downgraded by 5 mph due to bicyclist and pedestrian safety
10 mph Pace Speed	32 - 41 mph		
Percentage of Vehicles in Pace	59.1%		
Number of Survey Samples	110		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	0.34
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	16,965
Type of Traffic Control	Traffic signal at Fremont Blvd, Old Warm Springs Blvd, and Osgood Rd.
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3380'
Width	88'
Number of Lanes	EB -2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - near Fremont Blvd
Sidewalks?	Yes - north side between Old Warm Springs Blvd and Osgood Rd
Driveways?	Few
Vertical Curve	Yes - at railroad underpass
Horizontal Curve	Yes - at Old Warm Springs Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Rural and industrial

COMMENTS

The 85th-percentile speed of 43.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 32 mph to 41 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to pedestrian and bicyclist safety, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

37

STREET: S. Grimmer Boulevard
FROM: Fremont Blvd

SURVEY DATE: 9/25/2019
TO: Auto Mall Pkwy

SPEED DATA

Location of Speed Survey	44181 Grimmer Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	11:35 AM - 12:20 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	40.5 mph	Speed Limit Change	No
85th Percentile Speed	44.8 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	37 - 46 mph		downgraded due to
Percentage of Vehicles in Pace	73.3%		bicyclist safety and truck
Number of Survey Samples	105		traffic

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	0.75
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	16,087
Type of Traffic Control	Traffic signals at Fremont Blvd, Technology Dr, and Auto Mall Pkwy
Pedestrian Traffic	Low
Truck Traffic	High

ROADWAY CHARACTERISTICS

Length of Segment	5195'
Width	87'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Discontinuous
Driveways?	Many
Vertical Curve	None
Horizontal Curve	Yes - At Business Center Dr
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, Business

COMMENTS

The 85th-percentile speed of 44.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 37 mph to 46 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to the truck traffic and bicyclist safety, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

38

STREET: Grimmer Boulevard
FROM: Auto Mall Parkway

SURVEY DATE: 9/25/2019
TO: Blacow Road

SPEED DATA

Location of Speed Survey	250' N/O Grimmer Terrace	Posted Speed Limit	40 mph
Time of Speed Survey	10:35 AM - 11:30 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.9 mph	Speed Limit Change	No
85th Percentile Speed	43.2 mph	Speed Justification	85th-percentile speed downgraded by 5 mph due to bicyclist safety and corridor consistency
10 mph Pace Speed	34 - 43 mph		
Percentage of Vehicles in Pace	69.2%		
Number of Survey Samples	107		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	19
Collision Rate (ACC/MVM)	0.67
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	26,282
Type of Traffic Control	Traffic signals at Auto Mall Pkwy, Yellowstone Park Dr, Valpey Park, and Blacow Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5187'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Seneca Park Ave
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Approximately 300' north of Seneca Park Ave
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, and commercial

COMMENTS

The 85th-percentile speed of 43.2 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to bicyclist safety and to be consistent with adjacent corridor, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

39

STREET: Grimmer Boulevard
FROM: Blacow Road

SURVEY DATE: 9/25/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	150' N/O Carol Ave	Posted Speed Limit	40 mph
Time of Speed Survey	11:45 AM - 12:45 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	36.6 mph	Speed Limit Change	No
85th Percentile Speed	43.1 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to proximity to school
10 mph Pace Speed	31 - 40 mph		
Percentage of Vehicles in Pace	60.7%		
Number of Survey Samples	163		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	11
Collision Rate (ACC/MVM)	0.48
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	20,034
Type of Traffic Control	Traffic signal at Blacow Rd, Carol Ave, Irvington Ave, Davis St, Bay St, and Fremont Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5490'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Victoria Ave and Irvington Ave
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, and school

COMMENTS

The 85th-percentile speed of 43.1 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the proximity to Irvington High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

40

STREET: Grimmer Boulevard
FROM: Fremont Boulevard

SURVEY DATE: 9/17/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	40456 Grimmer Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	9:45 AM - 10:35 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.1 mph	Speed Limit Change	No
85th Percentile Speed	39.3 mph	Speed Justification	85th-percentile speed, downgraded 5 mph due to high collision rate.
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	80.8%		
Number of Survey Samples	213		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	1.46
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	14,092
Type of Traffic Control	Traffic signal at Fremont Blvd and Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2337'
Width	38'
Number of Lanes	NB - 1 SB - 1
Street Classification	Arterial-minor
Divided Median?	No
Designated Bike Route?	Yes - West side
Bike Lanes?	Yes - West side
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - between 7:00 PM and 7:00 AM on east side only
Sidewalks?	Yes - East side
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Slight curve near Paseo Padre Pkwy
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, and park

COMMENTS

The 85th-percentile speed of 39.3 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit is above this range. The collision rate is above the expected rate. Due to the higher than expected collision rate, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

41

STREET: Guardino Drive
FROM: Stevenson Boulevard

SURVEY DATE: 5/14/2019
TO: Mowry Avenue

SPEED DATA

Location of Speed Survey	39206 Guardino Dr	Posted Speed Limit	30 mph
Time of Speed Survey	11:20 AM - 12:35 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	33.4 mph	Speed Limit Change	No
85th Percentile Speed	37.0 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	86.1%		
Number of Survey Samples	101		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	2.02
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	4,299
Type of Traffic Control	Traffic signal at Walnut Ave, Mowry Ave, and Stevenson Blvd; stop sign at Litchfield Ave
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2778'
Width	64'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	Two-way left turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	Yes - Between Litchfield Ave. and Walnut Ave and between Red Hawk Ctr and Stevenson Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, non-fronting residential, apartments, and park

COMMENTS

The 85th-percentile speed of 37.0 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

42

STREET: Hastings Street
FROM: Capitol Avenue

SURVEY DATE: 12/9/2019
TO: Country Drive

SPEED DATA

Location of Speed Survey	Between Capitol Ave and Country Dr	Posted Speed Limit	30 mph
Time of Speed Survey	11:45 AM - 12:25 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	25.0 mph	Speed Limit Change	Yes
85th Percentile Speed	28.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate and downtown land uses
10 mph Pace Speed	20 - 29 mph		
Percentage of Vehicles in Pace	81.9%		
Number of Survey Samples	94		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	4.28
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	2,362
Type of Traffic Control	Traffic signal at Mowry Ave; stop signs at Country Dr and Capitol Ave
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1910'
Width	40' - 64'
Number of Lanes	EB - 1/2 WB - 1/2
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	Yes - at Pennsylvania Ave
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Approx 600' east of Country Dr
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Residential, Commercial

COMMENTS

The 85th-percentile speed of 28.7 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 24 mph to 33 mph and the suggested speed limit is above this range. The collision rate is above the expected rate. Due to the higher than expected collision rate and downtown land uses, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

43

STREET: Irvington Ave
FROM: Fremont Boulevard

SURVEY DATE: 5/28/2019
TO: Grimmer Boulevard

SPEED DATA

Location of Speed Survey	4181 Irvington Ave	Posted Speed Limit	30 mph
Time of Speed Survey	10:55 AM - 12:55 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	27.7 mph	Speed Limit Change	No
85th Percentile Speed	31.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate.
10 mph Pace Speed	24 - 33 mph		
Percentage of Vehicles in Pace	87.7%		
Number of Survey Samples	187		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	1.81
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	4,236
Type of Traffic Control	Traffic signals at Grimmer Blvd and Fremont Blvd; stop signs at Trimboli Way, Thurston St and Chapel Ave
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3137'
Width	65'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	None
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	None
Horizontal Curve	Yes - near Thurston St
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, commercial, cemetery, church, and school

COMMENTS

The 85th-percentile speed of 31.6 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 24 mph to 33 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

44

STREET: Kaiser Drive
FROM: Ardenwood Boulevard

SURVEY DATE: 3/4/2015
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	6552 Kaiser Dr	Posted Speed Limit	40 mph
Time of Speed Survey	2:00 PM - 4:00 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	36.2 mph	Speed Limit Change	Yes
85th Percentile Speed	39.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to location of uncontrolled crosswalks and the moderate to high pedestrian activity
10 mph Pace Speed	31 - 40 mph		
Percentage of Vehicles in Pace	82.9%		
Number of Survey Samples	111		

COLLISION HISTORY

Number of Years Studied	4
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.45

TRAFFIC FACTORS

Average Daily Traffic	1,074
Type of Traffic Control	Traffic signal at Ardenwood Blvd; stop sign at Paseo Padre Pkwy,
Pedestrian Traffic	Moderate to High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3257'
Width	86'
Number of Lanes	EB -2 WB -2
Street Classification	Collector
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	At Dumbarton Circle and Campus Drive
On-Street Parking?	No
Sidewalks?	Yes - Except south side near ends of segment
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Near Dumbarton Cir and Paseo Padre Pkwy
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Office

COMMENTS

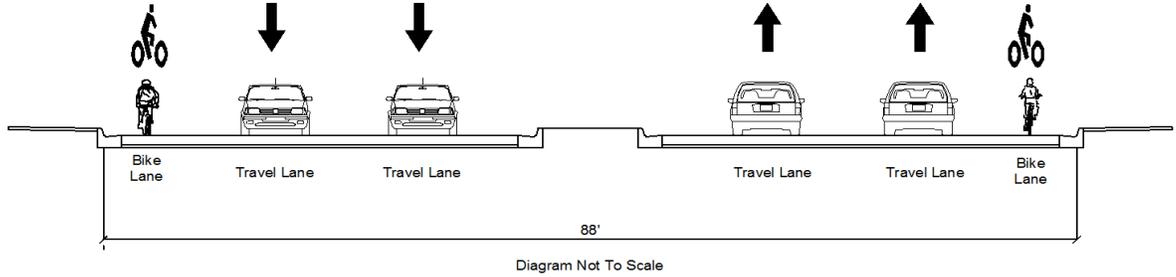
The 85th-percentile speed of 39.4 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalks and the moderate to high pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Kaiser Drive

Limits: Ardenwood Boulevard to Paseo Padre Parkway

Typical Cross-section



Radar Survey Sheet

X = East / = West

	5	10	15	20	25	30		
60							0	
							0	
							0	
							0	
							0	
55							0	
							0	
							0	
							0	
50							0	
							0	
							0	
							0	
							0	
	/						1	0.9%
45	/						1	0.9%
	/ /						2	1.8%
	/ /						2	1.8%
	X						1	0.9%
	X X / / /						5	4.5%
40	X X X X X X X /						8	7.2%
	X X X X X / / / / / / / / / /						14	12.6%
	X X X X / / / /						8	7.2%
	X X X X X X X X / / / / / / / / / /						17	15.3%
	X X X / / / / / / / / / / / / / / / /						13	11.7%
35	X X X X X X / / / / /						10	9.0%
	X X X / / /						6	5.4%
	X X X X X X / /						8	7.2%
	X X X						3	2.7%
	X X X X X						5	4.5%
30							0	
	X X X						3	2.7%
	X X / /						4	3.6%
							0	
							0	
25							0	
							0	
							0	
							0	
20							0	
							0	
							0	
							0	
15							0	
							0	
							0	
							0	
10							0	
							0	

Total Samples = 111

85th Percentile Speed: 39.4 mph
50th Percentile Speed: 36.2 mph
15th Percentile Speed: 32.2 mph
10 MPH Pace: 31 - 40
Number in Pace: 92
Percent in Pace: 82.9%

Date of Survey: 3/4/15
Weather: Clear
Pavement Condition: Good
Street Class.: Collector
Field Study by: ATD / KHA

Start Time: 2:00 PM
End Time: 4:00 PM
Posted Speed: 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

45

STREET: Liberty Street
FROM: Stevenson Boulevard

SURVEY DATE: 10/29/2019
TO: Walnut Avenue

SPEED DATA

Location of Speed Survey	Btwn Stevenson Blvd and Walnut Ave	Posted Speed Limit	30 mph
Time of Speed Survey	2:00 PM - 2:45 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	29.1 mph	Speed Limit Change	No
85th Percentile Speed	34.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to uncontrolled crosswalks.
10 mph Pace Speed	27 - 36		
Percentage of Vehicles in Pace	69.3%		
Number of Survey Samples	101		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	1.21
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	8,394
Type of Traffic Control	Traffic signals at Walnut Ave and Stevenson Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2375'
Width	40'-50'
Number of Lanes	EB - 1 WB - 1
Street Classification	Collector
Divided Median?	No - TWLTL between Walnut Ave and Sundale Dr
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Sundale Drive and Kearney Street
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	None
Vertical Curve	No
Horizontal Curve	Yes - approaching Stevenson
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, commercial, and office

COMMENTS

The average 85th-percentile speed of 34.6 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 27 mph to 36 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to uncontrolled crosswalks, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

46

STREET: Liberty Street
FROM: Capitol Avenue

SURVEY DATE: 12/9/2019
TO: Walnut Avenue

SPEED DATA

Location of Speed Survey	Between Capitol Ave and Walnut Ave	Posted Speed Limit	30 mph
Time of Speed Survey	11:20 AM - 11:45 AM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	26.6 mph	Speed Limit Change	Yes
85th Percentile Speed	30.9 mph	Speed Justification	85th-percentile speed, downgraded 5 mph due to high pedestrian activity, high bicycle activity and downtown land uses
10 mph Pace Speed	23 - 32		
Percentage of Vehicles in Pace	73.4%		
Number of Survey Samples	109		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	0.85
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	8,394
Type of Traffic Control	Traffic signal at Walnut Ave; stop sign at Capitol Ave and Beacon Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1355'
Width	40'-50'
Number of Lanes	EB - 1 WB - 1
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	None
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	None
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and office

COMMENTS

The average 85th-percentile speed of 30.9 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 23 mph to 32 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the high pedestrian activity, high bicycle activity and downtown land uses, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the speed limit to be decreased to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

47

STREET: Mowry Avenue
FROM: Mission Boulevard

SURVEY DATE: 5/10/2019
TO: Peralta Boulevard

SPEED DATA

Location of Speed Survey	200' W/O Ford Ln	Posted Speed Limit	35 - 40 mph
Time of Speed Survey	9:36 AM - 10:05 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.2 mph	Speed Limit Change	No
85th Percentile Speed	38.5 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	29 - 38 mph		downgraded due to pace
Percentage of Vehicles in Pace	62.9%		speed
Number of Survey Samples	229		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	28
Collision Rate (ACC/MVM)	1.13
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	26,381
Type of Traffic Control	Traffic signals at Mission Blvd, Cherry Ln, Guardino Dr, Peralta Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4516'
Width	82'
Number of Lanes	NB - 1/2 SB - /2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes - east of Cherry Lane
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	Yes
Horizontal Curve	Yes - near Thane St
Visibility	Good
Pavement Condition	Good - Moderate near Mission
Adjacent Land Use	Non-fronting residential and commercial

COMMENTS

The 85th-percentile speed of 38.5 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

48

STREET: Mowry Avenue
FROM: Peralta Boulevard

SURVEY DATE: 5/23/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	250' W/O Parkside Dr	Posted Speed Limit	35 mph
Time of Speed Survey	11:00 AM - 11:45 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	37.3 mph	Speed Limit Change	No
85th Percentile Speed	40.5 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to uncontrolled crosswalks
10 mph Pace Speed	35 - 44 mph		
Percentage of Vehicles in Pace	100.0%		
Number of Survey Samples	112		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	14
Collision Rate (ACC/MVM)	0.73
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	24,149
Type of Traffic Control	Traffic signals at Peralta Blvd, Parkside Dr, Civic Center Dr, Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3850'
Width	109'
Number of Lanes	NB - 2/3 SB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Bonner Ave and Vancouver Green
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - between Peralta Blvd and Waterside Cir
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, Medical Center, church, and BART

COMMENTS

The 85th-percentile speed of 40.5 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 35 mph to 44 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalks, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

49

STREET: Mowry Avenue
FROM: Paseo Padre Parkway

SURVEY DATE: 5/23/2019
TO: Fremont Blvd

SPEED DATA

Location of Speed Survey	200' E/O Mt Vernon Ave	Posted Speed Limit	40 mph
Time of Speed Survey	11:55 AM - 12:20 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.3 mph	Speed Limit Change	No
85th Percentile Speed	43.6 mph	Speed Justification	85th-percentile speed downgraded by 5 mph due to moderate pedestrian and bicycle activity and downtown land uses
10 mph Pace Speed	35 - 44 mph		
Percentage of Vehicles in Pace	88.2%		
Number of Survey Samples	110		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	16
Collision Rate (ACC/MVM)	0.87
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	33,333
Type of Traffic Control	Traffic signals at Paseo Padre Pkwy, Hastings St, State St, Fremont Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2655'
Width	108'
Number of Lanes	NB - 3 SB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - east side between Hastings St and State St
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Residential, Commercial

COMMENTS

The 85th-percentile speed of 43.6 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 35 mph to 44 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the moderate pedestrian and bicycle activity, and downtown land uses, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed remain at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

50

STREET: Mowry Avenue
FROM: Fremont Boulevard

SURVEY DATE: 5/23/2019
TO: Argonaut Way

SPEED DATA

Location of Speed Survey	At CVS Parking Lot	Posted Speed Limit	40 mph
Time of Speed Survey	12:45 PM - 2:00 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.9 mph	Speed Limit Change	No
85th Percentile Speed	42.7 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	35 - 44 mph		downgraded due to
Percentage of Vehicles in Pace	91.9%		moderate pedestrian and
Number of Survey Samples	111		bicycle activity

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.48
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	36,594
Type of Traffic Control	Traffic signals at Fremont Blvd, and Argonaut Wy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1370'
Width	101'
Number of Lanes	NB - 3 SB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and apartments

COMMENTS

The 85th-percentile speed of 42.7 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 35 mph to 44 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the moderate bicycle and pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

51

STREET: Mowry Avenue
FROM: Argonaut Way

SURVEY DATE: 5/30/2019
TO: Blacow Road

SPEED DATA

Location of Speed Survey	4617 Mowry Ave	Posted Speed Limit	40 mph
Time of Speed Survey	10:30 AM - 11:45 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	40.9 mph	Speed Limit Change	No
85th Percentile Speed	46.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to pedestrian and bicycle safety and fronting residential
10 mph Pace Speed	38 - 47 mph		
Percentage of Vehicles in Pace	74.9%		
Number of Survey Samples	195		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	33
Collision Rate (ACC/MVM)	0.87
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	46,319
Type of Traffic Control	Traffic signals at Blacow Rd, Glenview Dr, Logan Dr, and Argonaut Way
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3945'
Width	96'
Number of Lanes	NB - 3 SB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	No
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, fronting residential on southern end and commercial

COMMENTS

The 85th-percentile speed of 46.4 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 38 mph to 47 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to pedestrian and bicycle safety and fronting residential on the south end, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

52

STREET: Mowry Avenue
FROM: Blacow Road

SURVEY DATE: 5/10/2019
TO: I-880

SPEED DATA

Location of Speed Survey	470' W/O Blacow Rd	Posted Speed Limit	40 mph
Time of Speed Survey	2:30 PM - 2:52 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	28.1 mph	Speed Limit Change	Yes
85th Percentile Speed	32.9 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	24 - 33 mph		
Percentage of Vehicles in Pace	74.4%		
Number of Survey Samples	223		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	43
Collision Rate (ACC/MVM)	1.53
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	46,274
Type of Traffic Control	Traffic signals at I-880 NB ramps, Farwell Dr, Blacow Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2937'
Width	114'
Number of Lanes	NB - 3 SB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial

COMMENTS

The 85th-percentile speed of 32.9 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 24 mph to 33 mph and the suggested speed limit is above this range. The collision rate is above the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit to be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

53

STREET: Niles Boulevard
FROM: City Limits

SURVEY DATE: 9/26/2019
TO: Nursery Ave

SPEED DATA

Location of Speed Survey	200' east of Hirsch Terrace	Posted Speed Limit	35 - 40 mph
Time of Speed Survey	11:25 AM - 12:10 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.4 mph	Speed Limit Change	Yes
85th Percentile Speed	38.7 mph	Speed Justification	85th-percentile downgraded due to uncontrolled crosswalks, fronting residential and proximity to park
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	78.7%		
Number of Survey Samples	202		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	7
Collision Rate (ACC/MVM)	0.40
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	17,419
Type of Traffic Control	Traffic Signal at Nursery Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4895'
Width	84'
Number of Lanes	EB - 1/2 WB - 1/2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At El Portal Ave, Linda Dr, Rock Ave, and Rancho Arrow Pkwy
On-Street Parking?	No
Sidewalks?	Yes - Discontinuous
Driveways?	Few
Vertical Curve	Yes - South of City Limit
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential and park

COMMENTS

The 85th-percentile speed of 38.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above this range. The collision rate for this segment is below the expected rate. Due to the uncontrolled crosswalks, fronting residential and proximity to a park, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the speed limit decrease to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

54

STREET: Niles Boulevard
FROM: Nursery Avenue

SURVEY DATE: 5/9/2019
TO: Hillview Drive

SPEED DATA

Location of Speed Survey	350' east of Nursery Ave	Posted Speed Limit	35 mph
Time of Speed Survey	3:20 PM - 3:55 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	23.1 mph	Speed Limit Change	Yes
85th Percentile Speed	26.9 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	18 - 27 mph		
Percentage of Vehicles in Pace	83.2%		
Number of Survey Samples	214		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	7,723
Type of Traffic Control	Traffic signal at Nursery Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	945'
Width	62'
Number of Lanes	EB - 1 WB - 1
Street Classification	Arterial - minor
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	At Hillview Dr
On-Street Parking?	No
Sidewalks?	Yes- Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential

COMMENTS

The 85th-percentile speed of 26.9 mph indicates a 25 mph speed limit. The 10 mph pace ranges from 18 mph to 27 mph and the suggested speed is above this range. The collision rate for this segment is below the expected rate. Based on the 85th-percentile speed, it is recommended that the speed limit decrease to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

55

STREET: Osgood Road
FROM: Washington Boulevard

SURVEY DATE: 9/25/2019
TO: Auto Mall Parkway

SPEED DATA

Location of Speed Survey	42950 Osgood Rd	Posted Speed Limit	40 mph
Time of Speed Survey	12:07 PM - 12:37 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.5 mph	Speed Limit Change	No
85th Percentile Speed	44.5 mph	Speed Justification	85th-percentile speed downgraded due to pace speed and truck activity
10 mph Pace Speed	35 - 44 mph		
Percentage of Vehicles in Pace	77.4%		
Number of Survey Samples	230		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	0.35
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	22,825
Type of Traffic Control	Traffic signals at Washington Blvd, Blacow Rd, Straford, and Auto Mall Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	7765'
Width	70'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes - Two-way left turn lane south of Blacow Rd
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	Yes - At Washington Blvd
Horizontal Curve	Yes - South of Washington Blvd and at Wal-Mart
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, office, and commercial

COMMENTS

The 85th-percentile speed of 44.5 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the pace speed and truck activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

56

STREET: Osgood Road
FROM: Auto Mall Parkway

SURVEY DATE: 5/28/2019
TO: Grimmer Boulevard

SPEED DATA

Location of Speed Survey	44051 Osgood Rd	Posted Speed Limit	40 mph
Time of Speed Survey	9:15 AM - 10:20 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	37.0 mph	Speed Limit Change	No
85th Percentile Speed	43.1 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	33 - 42 mph		downgraded due to pace
Percentage of Vehicles in Pace	66.7%		speed, pedestrian activity
Number of Survey Samples	123		and truck traffic

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	0.89
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	20,246
Type of Traffic Control	Traffic signals at Auto Mall Parkway, Wal-Mart Dwy, and Grimmer Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3482'
Width	68'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes - north of Skyway Ct and approximately south of Prune Ave; TWLTL between Skyway Ct and Prune Ave
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	No
Horizontal Curve	Yes - south of Auto Mall Parkway
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, office, and commercial

COMMENTS

The 85th-percentile speed of 43.1 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pedestrian pace speed, pedestrian activity and truck traffic, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Osgood Road

Limits: Auto Mall Parkway to Grimmer Boulevard

Typical Cross-section

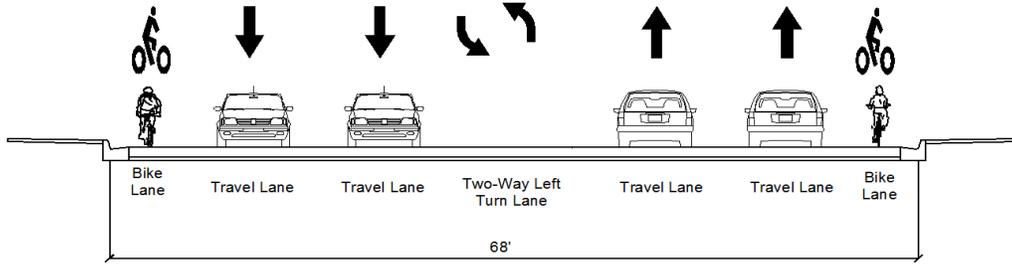


Diagram Not To Scale

Radar Survey Sheet

X = North / = South

	5	10	15	20	25	30			
60								0	
/								1	0.8%
								0	100.0%
								0	
								0	
55								0	
								0	
								0	
								0	
50								0	
X / /								3	2.4%
								0	99.2%
X /								2	1.6%
								0	96.7%
								0	
45	X X X X / / / /							8	6.5%
X X X / /								5	4.1%
								88.6%	
X / /								3	2.4%
								84.6%	
X X X X X X / /								8	6.5%
								82.1%	
X X X / /								5	4.1%
								75.6%	
40	X X X X /							5	4.1%
								71.5%	
X X X X X X / / / / /								11	8.9%
								67.5%	
X X X X X / / / / / /								11	8.9%
								58.5%	
X X X X X X / / / / /								12	9.8%
								49.6%	
X X X X X X / / / / /								10	8.1%
								39.8%	
35	X X X X /							5	4.1%
								31.7%	
X X / / / / / / / /								10	8.1%
								27.6%	
X X X / /								5	4.1%
								19.5%	
X X X / /								5	4.1%
								15.4%	
X X X / / / / /								7	5.7%
								11.4%	
30	/							1	0.8%
								5.7%	
/								1	0.8%
								4.9%	
X								1	0.8%
								4.1%	
/								1	0.8%
								3.3%	
X /								2	1.6%
								2.4%	
25								0	
								0	
X								1	0.8%
								0.8%	
								0	
								0	
20								0	
								0	
								0	
								0	
15								0	
								0	
								0	
								0	
10								0	
								0	

Total Samples = 123

85th Percentile Speed: 43.1 mph
50th Percentile Speed: 37.0 mph
15th Percentile Speed: 31.9 mph
10 MPH Pace: 33 - 42
Number in Pace: 82
Percent in Pace: 66.7%

Date of Survey: 5/28/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - major
Field Study by: ATD / KHA

Start Time: 9:15 AM
End Time: 10:20 AM
Posted Speed: 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

57

STREET: Paseo Padre Parkway
FROM: City Limits

SURVEY DATE: 5/9/2019
TO: Ardenwood Boulevard

SPEED DATA

Location of Speed Survey	600' S/O Patterson Ranch Rd	Posted Speed Limit	45 mph
Time of Speed Survey	9:40 AM - 10:20 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	40.4 mph	Speed Limit Change	Yes
85th Percentile Speed	46.8 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the pace speed and uncontrolled crosswalks
10 mph Pace Speed	37 - 46 mph		
Percentage of Vehicles in Pace	57.6%		
Number of Survey Samples	229		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	22
Collision Rate (ACC/MVM)	0.68
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	19,698
Type of Traffic Control	Traffic signals at Ardenwood Blvd, SR-84 EB Ramps, and SR-84 WB Ramps
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	7887'
Width	83'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Dumbarton Cir, Kaiser Dr, and Commerce Dr
On-Street Parking?	No
Sidewalks?	Yes - Continuous on east side only
Driveways?	Few
Vertical Curve	Yes - SR-84 overpass
Horizontal Curve	Yes - West of Ardenwood Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Office

COMMENTS

The 85th-percentile speed of 46.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 37 mph to 46 mph and the suggested speed limit falls within this range. Due to the pace speed and uncontrolled crosswalks, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

58

STREET: Paseo Padre Parkway
FROM: Ardenwood Boulevard

SURVEY DATE: 9/24/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	200' W/O Capulet Rd	Posted Speed Limit	40 mph
Time of Speed Survey	11:50 AM - 12:45 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.4 mph	Speed Limit Change	No
85th Percentile Speed	43.8 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	36 - 45 mph		downgraded due to
Percentage of Vehicles in Pace	75.7%		corridor consistency and
Number of Survey Samples	226		pace speed

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	11
Collision Rate (ACC/MVM)	0.37
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	16,602
Type of Traffic Control	Traffic signals at Ardenwood Blvd, Tupelo St, Deep Creek Rd, Siward Rd, and Fremont Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	8717'
Width	80'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	Yes - At Siward
Horizontal Curve	Yes - East of Tupelo and east of I-880
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, preschool, and after school facilities

COMMENTS

The 85th-percentile speed of 43.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Due to pace speed and to be consistent with adjacent corridor, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

59

STREET: Paseo Padre Parkway
FROM: Fremont Blvd

SURVEY DATE: 9/24/2019
TO: Decoto Road

SPEED DATA

Location of Speed Survey	370' N/O Whitehead Ln	Posted Speed Limit	45 mph
Time of Speed Survey	12:50 PM - 1:25 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.2 mph	Speed Limit Change	Yes
85th Percentile Speed	44.6 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	36 - 45 mph		downgraded due to pace
Percentage of Vehicles in Pace	78.4%		speed and proximity to
Number of Survey Samples	231		school

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	11
Collision Rate (ACC/MVM)	0.38
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	23,132
Type of Traffic Control	Traffic signals at Fremont Blvd, Milton St, Whitehead Ln, Warwick Rd, and Decoto Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5988'
Width	79'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - east side between Fremont Blvd and 350 ft north of Milton St
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Sylvester Dr and Darwin Dr
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, church, school, and park

COMMENTS

The 85th-percentile speed of 44.6 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the pace speed and proximity to school, a downgrading of speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

60

STREET: Paseo Padre Parkway
FROM: Decoto Road

SURVEY DATE: 9/26/2019
TO: Thornton Avenue

SPEED DATA

Location of Speed Survey	900' S/O Tamayo St	Posted Speed Limit	45 mph
Time of Speed Survey	10:15 AM - 11:10 AM	Recommended Speed Limit	45 mph
50th Percentile Speed (Mean Speed)	42.8 mph	Speed Limit Change	No
85th Percentile Speed	48.0 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	38 - 47 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	67.9%		uncontrolled crosswalks and
Number of Survey Samples	193		proximity to Alameda Creek
			Trail

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	25
Collision Rate (ACC/MVM)	0.62
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	25,719
Type of Traffic Control	Traffic signals at Decoto Rd, Isherwood Wy, and Thornton Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	7550'
Width	104'
Number of Lanes	EB - 2/3 WB - 2/3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Wyndham Dr and Surry Pl
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - Between Puttenham Way and Thornton Ave
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential and Alameda Creek Trail

COMMENTS

The 85th-percentile speed of 48.0 mph indicates a 50.0 mph speed limit. The 10 mph pace ranges from 38 mph to 47 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalks and proximity to the Alameda Creek Trail, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 45 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

61

STREET: Paseo Padre Parkway
FROM: Thornton Avenue

SURVEY DATE: 5/10/2019
TO: Peralta Boulevard

SPEED DATA

Location of Speed Survey	1000' E/O Sequoia Rd	Posted Speed Limit	40 mph
Time of Speed Survey	9:00 AM - 9:31 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	31.6 mph	Speed Limit Change	Yes
85th Percentile Speed	35.9 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	28 - 37 mph		
Percentage of Vehicles in Pace	78.0%		
Number of Survey Samples	227		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	14
Collision Rate (ACC/MVM)	0.45
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	34,388
Type of Traffic Control	Traffic signals at Thornton Ave, Sequoia Rd, and Peralta Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4392'
Width	82'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	Yes - East of Sequoia and north of Peralta
Horizontal Curve	Yes - West of Sequoia Rd; west of Riverwalk Dr
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Apartments and church

COMMENTS

The 85th-percentile speed of 35.9 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit is within this range. The collision rate is below the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

62

STREET: Paseo Padre Parkway
FROM: Peralta Boulevard

SURVEY DATE: 9/25/2019
TO: Mowry Avenue

SPEED DATA

Location of Speed Survey	Paseo Padre Pkwy 500' S/O Country Dr	Posted Speed Limit	35 mph
Time of Speed Survey	11:30 AM - 12:35 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.7 mph	Speed Limit Change	No
85th Percentile Speed	38.7 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	30 - 39 mph		downgraded due to pace
Percentage of Vehicles in Pace	85.5%		speed, corridor
Number of Survey Samples	214		consistency, and
			uncontrolled crosswalk

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	18
Collision Rate (ACC/MVM)	0.68
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	30,825
Type of Traffic Control	Traffic signals at Peralta Blvd, Eggers Dr, Country Dr, Whole Food Market, and Mowry Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4169'
Width	80'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Parkside Dr
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, apartments, commercial, childcare, and church

COMMENTS

The 85th-percentile speed of 38.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit is above the range. The collision rate is below the expected rate. Due to the pace speed, uncontrolled crosswalk, and to maintain corridor consistency, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Paseo Padre Parkway

Limits: Peralta Boulevard to Mowry Avenue

Typical Cross-section

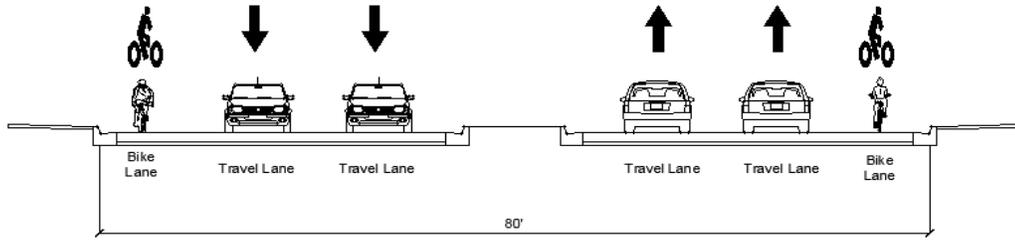


Diagram Not To Scale

Radars Survey Sheet

X = North / = South

	5	10	15	20	25	30			
60							0		
							0		
							0		
							0		
							0		
55							0		
							0		
/							1	0.5%	100.0%
							0		
							0		
50							0		
							0		
X							1	0.5%	99.5%
/							1	0.5%	99.1%
X							1	0.5%	98.6%
45	X	/					2	0.9%	98.1%
/							1	0.5%	97.2%
X	X	/					3	1.4%	96.7%
X	X	/	/	/	/		6	2.8%	95.3%
X	X	/					3	1.4%	92.5%
40	X	X	X	X	X	/	9	4.2%	91.1%
X	X	X	X	/	/	/	12	5.6%	86.9%
X	X	X	X	/	/	/	10	4.7%	81.3%
X	X	X	X	X	X	X	24	11.2%	76.6%
X	X	X	X	X	X	X	20	9.3%	65.4%
35	X	X	X	X	X	X	41	19.2%	56.1%
X	X	X	X	X	X	X	20	9.3%	36.9%
X	X	X	X	X	X	X	29	13.6%	27.6%
X	X	X	X	X	X	/	12	5.6%	14.0%
X	X	X	/	/	/	/	6	2.8%	8.4%
30	X	X	X	/	/	/	9	4.2%	5.6%
X	/						2	0.9%	1.4%
/							1	0.5%	0.5%
							0		
							0		
25							0		
							0		
							0		
							0		
							0		
20							0		
							0		
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
							0		
10							0		
							0		

Total Samples = 214

85th Percentile Speed: 38.7 mph
50th Percentile Speed: 34.7 mph
15th Percentile Speed: 32.1 mph
10 MPH Pace: 30 - 39
Number in Pace: 183
Percent in Pace: 85.5%

Date of Survey: 9/25/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - major
Field Study by: ATD / KHA

Start Time: 11:30 AM
End Time: 12:35 PM
Posted Speed: 35 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

63

STREET: Paseo Padre Parkway
FROM: Mowry Avenue

SURVEY DATE: 6/12/2019
TO: Stevenson Boulevard

SPEED DATA

Location of Speed Survey	39159 Paseo Padre Pkwy	Posted Speed Limit	35 mph
Time of Speed Survey	11:35 AM - 1:05 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	32.1 mph	Speed Limit Change	Yes
85th Percentile Speed	37.1 mph	Speed Justification	85th-percentile speed downgraded due to the adjacent downtown land uses and high bike and pedestrian activity
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	73.9%		
Number of Survey Samples	115		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	22
Collision Rate (ACC/MVM)	0.91
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	30,423
Type of Traffic Control	Traffic signals at Mowry Ave, Capitol Ave, Gateway Plaza, Walnut Ave, and Stevenson Blvd
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3814'
Width	106'
Number of Lanes	EB - 3 WB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - Discontinuous
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, medical center, and Downtown City Center

COMMENTS

The 85th-percentile speed of 37.1 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the adjacent downtown land uses and the high bike and pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

64

STREET: Paseo Padre Parkway
FROM: Stevenson Boulevard

SURVEY DATE: 11/5/2019
TO: Grimmer Boulevard

SPEED DATA

Location of Speed Survey	Between Mission View Dr and Baylis St	Posted Speed Limit	35 mph
Time of Speed Survey	2:00 PM - 2:48 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.8 mph	Speed Limit Change	No
85th Percentile Speed	39.3 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to uncontrolled crosswalk, proximity to senior center and park
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	78.0%		
Number of Survey Samples	205		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	0.70
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	16,419
Type of Traffic Control	Traffic signals at Stevenson Blvd, Sailway Dr, Mission View Dr, Grimmer Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4220'
Width	81'
Number of Lanes	EB - 2/3 WB - 2/3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes - Discontinuous on west side and continuous on east side
Uncontrolled Crosswalks?	At Baylis St
On-Street Parking?	Yes - South of Baylis St
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, commercial, park, school, and senior center

COMMENTS

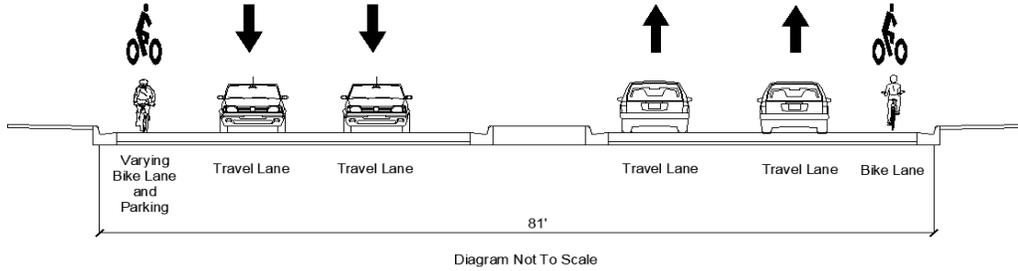
The 85th-percentile speed of 39.3 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit falls above this range. The collision rate is below the expected rate. Due to uncontrolled crosswalk, proximity to a senior center and park, downgrading of the speed limit by 5mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Paseo Padre Parkway

Limits: Stevenson Boulevard to Grimmer Boulevard

**Typical
Cross-section**



Radar Survey Sheet

X = East / = West

	5	10	15	20	25	30			
							1	0.5%	100.0%
							0		
60							0		
							0		
							0		
							0		
							0		
55							0		
							0		
							0		
							0		
							0		
50	/						1	0.5%	99.5%
							0		
							0		
							0		
45	X	X	/	/	/		1	0.5%	99.0%
	X						5	2.4%	98.5%
	X	X	X	/	/		1	0.5%	96.1%
	X	X	X	/	/		5	2.4%	95.6%
	X	X	X	/	/		5	2.4%	93.2%
	X	X	X	/	/		5	2.4%	90.7%
40	X	X	X	X	X	/	9	4.4%	88.3%
	X	X	X	X	X	/	13	6.3%	83.9%
	X	X	X	X	X	X	13	6.3%	77.6%
	X	X	X	X	X	X	23	11.2%	71.2%
	X	X	X	X	X	X	14	6.8%	60.0%
35	X	X	X	X	X	X	30	14.6%	53.2%
	X	X	X	X	X	/	13	6.3%	38.5%
	X	X	X	X	X	/	13	6.3%	32.2%
	X	X	X	X	X	X	16	7.8%	25.9%
	X	X	X	X	/	/	12	5.9%	18.0%
30	X	X	X	X	X	X	13	6.3%	12.2%
	X	X	/				3	1.5%	5.9%
	X	X	X	X	/		5	2.4%	4.4%
	X	X	X				3	1.5%	2.0%
25							0		
	/						1	0.5%	0.5%
							0		
							0		
20							0		
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		

Total Samples = 205

85th Percentile Speed: 39.3 mph
50th Percentile Speed: 34.8 mph
15th Percentile Speed: 30.5 mph
10 MPH Pace: 30 - 39
Number in Pace: 160
Percent in Pace: 78.0%

Date of Survey: 11/5/19
Weather: Clear
Pavement Condition: Good
Street Class.: Arterial - major
Field Study by: City of Fremont

Start Time: 2:00 PM
End Time: 2:48 PM
Posted Speed: 35 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

65

STREET: Paseo Padre Parkway
FROM: Grimmer Boulevard

SURVEY DATE: 11/13/2019
TO: Driscoll Rd

SPEED DATA

Location of Speed Survey	Between Grimmer Blvd and Driscoll Rd	Posted Speed Limit	35 mph
Time of Speed Survey	11:29 AM - 11:58 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	32.5 mph	Speed Limit Change	No
85th Percentile Speed	37.8 mph	Speed Justification	85th-percentile speed downgraded due to pace speed, proximity to park and corridor consistency
10 mph Pace Speed	27 - 36 mph		
Percentage of Vehicles in Pace	71.6%		
Number of Survey Samples	204		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	0.26
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	18,974
Type of Traffic Control	Traffic signals at Grimmer Blvd, Gomes Rd, and Driscoll Rd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3945'
Width	81'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - south side between Gomes Rd and Driscoll Rd
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	Yes - Between Grimmer Blvd and Gomes Rd
Horizontal Curve	Yes - Between Grimmer Blvd and Hancock Dr; between Shadow Brooke Common and Driscoll Rd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, commercial, and park

COMMENTS

The 85th-percentile speed of 37.8 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 27 mph to 36 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed, corridor consistency and proximity to park, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

66

STREET: Paseo Padre Parkway
FROM: Driscoll Rd

SURVEY DATE: 5/23/2019
TO: Washington Blvd

SPEED DATA

Location of Speed Survey	41961 Paseo Padre Pkwy	Posted Speed Limit	35 mph
Time of Speed Survey	10:00 AM - 11:15 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	36.5 mph	Speed Limit Change	No
85th Percentile Speed	40.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting residential and uncontrolled crosswalks
10 mph Pace Speed	31 - 40 mph		
Percentage of Vehicles in Pace	79.2%		
Number of Survey Samples	130		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	20
Collision Rate (ACC/MVM)	1.20
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	13,479
Type of Traffic Control	Traffic signals at Driscoll Rd, Chadbourne Dr, and Washington Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5970'
Width	81'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	Yes - Discontinuous
Uncontrolled Crosswalks?	At Covington Dr, Mento Dr, and Dorne Pl
On-Street Parking?	Yes - West of I-680
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	Yes - I-680 overpass
Horizontal Curve	Yes - Between Covington Dr and Washington Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential, apartments, commercial, and synagogue

COMMENTS

The 85th-percentile speed of 40.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to fronting residential and uncontrolled crosswalks, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

67

STREET: Paseo Padre Parkway
FROM: Washington Blvd

SURVEY DATE: 9/27/2019
TO: Durham Road

SPEED DATA

Location of Speed Survey	Paseo Padre Pkwy 100' N/O Camino I	Posted Speed Limit	35 mph
Time of Speed Survey	10:30 AM - 11:30 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.7 mph	Speed Limit Change	No
85th Percentile Speed	38.0 mph	Speed Justification	85th-percentile speed downgraded due to fronting residential
10 mph Pace Speed	30 - 39 mph		
Percentage of Vehicles in Pace	77.3%		
Number of Survey Samples	119		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	9
Collision Rate (ACC/MVM)	0.56
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	9,426
Type of Traffic Control	Traffic signals at Durham Rd and Washington Blvd, all-way stop at Cam Del Campo, Pine Street, Vista Del Mar
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	8240'
Width	62'
Number of Lanes	EB - 1 WB - 1
Street Classification	Arterial - minor
Divided Median?	No - TWLTL north of Quema Dr
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous on the east side
Driveways?	Few
Vertical Curve	Yes - At Quema Dr
Horizontal Curve	Yes - Between Durham Rd and Pine St
Visibility	Fair
Pavement Condition	Good
Adjacent Land Use	Non-fronting and fronting residential and park

COMMENTS

The 85th-percentile speed of 38.0 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 30 mph to 39 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to fronting residential, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

68

STREET: Paseo Padre Parkway
FROM: Durham Road

SURVEY DATE: 5/24/2019
TO: Grimmer Blvd

SPEED DATA

Location of Speed Survey	Paseo Padre Pkwy 350' S/O Blackfoot Dr	Posted Speed Limit	35 mph
Time of Speed Survey	9:00 AM - 10:30 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.9 mph	Speed Limit Change	No
85th Percentile Speed	40.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the proximity to school and park
10 mph Pace Speed	32 - 41 mph		
Percentage of Vehicles in Pace	76.4%		
Number of Survey Samples	110		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	1
Collision Rate (ACC/MVM)	0.28
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	6,051
Type of Traffic Control	Traffic signal at Durham Rd; stop sign at Grimmer Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2860'
Width	62'
Number of Lanes	EB - 1 WB - 1
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	Yes
Horizontal Curve	Yes - Between Parkmeadow Dr and Grimmer Blvd
Visibility	Fair
Pavement Condition	Moderate
Adjacent Land Use	Non-fronting residential, park, and school

COMMENTS

The 85th-percentile speed of 40.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 32 mph to 41 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the proximity to Fred W. Weibel Elementary School and Arroyo Agua Caliente Park, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

69

STREET: Paseo Padre Parkway
FROM: S Grimmer Boulevard

SURVEY DATE: 9/26/2019
TO: Mission Boulevard

SPEED DATA

Location of Speed Survey	Paseo Padre Pkwy 200' N/O Gregory	Posted Speed Limit	35 mph
Time of Speed Survey	12:15 PM - 12:50 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.9 mph	Speed Limit Change	No
85th Percentile Speed	39.1 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	31 - 40 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	76.9%		uncontrolled crosswalks and
Number of Survey Samples	108		proximity to school

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	7,199
Type of Traffic Control	Traffic signal at Mission Blvd, all-way stop at Grimmer Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3985'
Width	79'
Number of Lanes	EB - 1 WB - 1
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Indian Hill Pl and Onondaga Wy
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	Yes
Horizontal Curve	Yes - At Cayuga Pl
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential and school

COMMENTS

The 85th-percentile speed of 39.1 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalks and proximity to Fred E Weibel Elementary School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

70

STREET: Paseo Padre Parkway
FROM: Mission Boulevard

SURVEY DATE: 3/16/2015
TO: Curtner Road

SPEED DATA

Location of Speed Survey	45977 Paseo Padre Pkwy	Posted Speed Limit	30 mph
Time of Speed Survey	11:45 AM - 12:50 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	33.3 mph	Speed Limit Change	No
85th Percentile Speed	37.0 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting residential
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	86.1%		
Number of Survey Samples	108		

COLLISION HISTORY

Number of Years Studied	4
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.45

TRAFFIC FACTORS

Average Daily Traffic	6,082
Type of Traffic Control	Traffic signal at Mission Blvd; stop sign at Sundance Dr and Curtner Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3216'
Width	84'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Many
Vertical Curve	Yes
Horizontal Curve	Yes - Between Kootenai Dr and Klamath St; between Sundance Dr and Curtner Rd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting residential

COMMENTS

The 85th-percentile speed of 37.0 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

71

STREET: Peralta Boulevard
FROM: Mowry Avenue

SURVEY DATE: 1/23/2020
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	1819 Peralta Avenue	Posted Speed Limit	35-40 mph
Time of Speed Survey	2:30 PM - 3:30 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	40.2 mph	Speed Limit Change	Yes
85th Percentile Speed	43.8 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the uncontrolled crosswalk
10 mph Pace Speed	36-45 mph		
Percentage of Vehicles in Pace	85.4%		
Number of Survey Samples	233		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.30
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	15,981
Type of Traffic Control	Traffic signal at Paseo Padre Parkway, Mowry Avenue
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5020'
Width	84'
Number of Lanes	EB - 1/2 WB - 1/2
Street Classification	Principal Arterial
Divided Median?	No - Two way left turn lane
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	At Acacia St
On-Street Parking?	Yes
Sidewalks?	Yes - continuous on north side, discontinuous on south side
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Business, non-fronting residential

COMMENTS

The 85th-percentile speed of 43.8 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit increase-remain at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

72

STREET: Peralta Boulevard
FROM: Paseo Padre Parkway

SURVEY DATE: 1/22/2020
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	3231 Peralta Avenue	Posted Speed Limit	30-35 mph
Time of Speed Survey	1:47 PM - 2:32 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	32.4 mph	Speed Limit Change	Yes
85th Percentile Speed	37.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the pace speed and fronting residential
10 mph Pace Speed	29-38 mph		
Percentage of Vehicles in Pace	69.4%		
Number of Survey Samples	232		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	10
Collision Rate (ACC/MVM)	0.90
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	11,813
Type of Traffic Control	Traffic signal at Fremont Blvd, Paseo Padre Parkway
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3643'
Width	54'-86'
Number of Lanes	EB - 1/2 WB - 1/2
Street Classification	Collector
Divided Median?	Yes- E/O Arlene Ct, two way left turn - discontinuous
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - discontinuous
Driveways?	Many
Vertical Curve	None
Horizontal Curve	Yes - Between Rose Ct and Fremont Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, church, fronting and non fronting residential

COMMENTS

The 85th-percentile speed of 37.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit falls above this range. The collision rate is below the expected rate. Due to the pace speed and fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit increases to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

73

STREET: Peralta Boulevard
FROM: Fremont Boulevard

SURVEY DATE: 5/10/2019
TO: Dusterberry Way

SPEED DATA

Location of Speed Survey	4251 Peralta Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	11:18 AM - 12:20 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	30.1 mph	Speed Limit Change	Yes
85th Percentile Speed	35.8 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the pace speed
10 mph Pace Speed	27 - 36 mph		
Percentage of Vehicles in Pace	68.4%		
Number of Survey Samples	158		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	0.90
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	5,737
Type of Traffic Control	Traffic signal at Dusterberry Wy and Fremont Blvd; stop sign at Maple St
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1867'
Width	64'
Number of Lanes	EB - 2 WB - 2
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial

COMMENTS

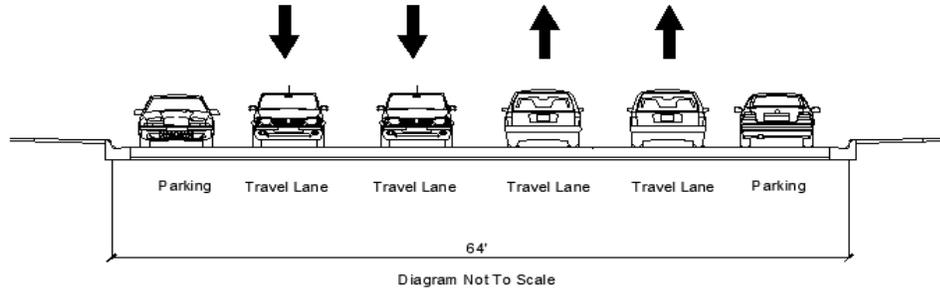
The 85th-percentile speed of 35.8 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 27 mph to 36 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the pace speed, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 30 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Peralta Boulevard

Limits: Fremont Boulevard to Dusterberry Way

Typical Cross-section



Radars Survey Sheet

X = East / = West

	5	10	15	20	25	30			
60							0		
							0		
							0		
							0		
							0		
55							0		
							0		
							0		
							0		
							0		
50	X						1	0.6%	100.0%
							0		
							0		
							0		
45							0		
							0		
/							1	0.6%	99.4%
/							1	0.6%	98.7%
/							1	0.6%	98.1%
40	X X / /						4	2.5%	97.5%
X /							2	1.3%	94.9%
X X X / / / / /							8	5.1%	93.7%
X / / /							4	2.5%	88.6%
X X / / / / / / / /							9	5.7%	86.1%
35	X X X X / / / /						7	4.4%	80.4%
/ / / /							4	2.5%	75.9%
X X X X / / / / / / / /							10	6.3%	73.4%
X X X X X / / / / / / / / / /							15	9.5%	67.1%
X X X X / / / / / / / / / /							14	8.9%	57.6%
30	X X X X X X X X X X X X / / / / / / / / / / / / / / / /						24	15.2%	48.7%
X X X X X / /							7	4.4%	33.5%
X X X X / / / / /							9	5.7%	29.1%
X X X X X X / / /							9	5.7%	23.4%
X X X /							4	2.5%	17.7%
25	X X X X X X X /						8	5.1%	15.2%
X X / / /							5	3.2%	10.1%
/							1	0.6%	7.0%
X X X X /							5	3.2%	6.3%
X /							2	1.3%	3.2%
20	X X /						3	1.9%	1.9%
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		

Total Samples = 158

85th Percentile Speed: 35.8 mph
50th Percentile Speed: 30.1 mph
15th Percentile Speed: 25.0 mph
10 MPH Pace: 27 - 36
Number in Pace: 108
Percent in Pace: 68.4%

Date of Survey: 5/10/19
Weather: Clear
Pavement Condition: Good
Street Class.: Collector
Field Study by: ATD / KHA

Start Time: 11:18 AM
End Time: 12:20 PM
Posted Speed: 35 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

74

STREET: Rancho Arroyo Parkway
FROM: Niles Boulevard

SURVEY DATE: 5/9/2019
TO: Riviera Drive

SPEED DATA

Location of Speed Survey	Rancho Arroyo Pkwy 110' N/O Serpa Ct	Posted Speed Limit	30 mph
Time of Speed Survey	2:07 PM - 3:10 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	27.0 mph	Speed Limit Change	Yes
85th Percentile Speed	32.0 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	23 - 32 mph		downgraded due to high
Percentage of Vehicles in Pace	75.9%		collision rate and fronting
Number of Survey Samples	108		residential

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	1
Collision Rate (ACC/MVM)	1.56
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	2,189
Type of Traffic Control	Stop sign at Niles Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1412'
Width	70'
Number of Lanes	EB - 1 WB - 1
Street Classification	Collector
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Serpa Ct, De Valle Ct
On-Street Parking?	Yes
Sidewalks?	Yes - east side
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - between Serpa Ct and De Valle Ct
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Non-fronting residential and apartments

COMMENTS

The 85th-percentile speed of 32.0 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 23 mph to 32 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate and fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

75

STREET: Roberts Avenue
FROM: Blacow Road

SURVEY DATE: 5/28/2019
TO: Main Street

SPEED DATA

Location of Speed Survey	41354 Roberts Ave	Posted Speed Limit	25 mph
Time of Speed Survey	11:00 AM - 1:00 PM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	25.7 mph	Speed Limit Change	No
85th Percentile Speed	30.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting residential and uncontrolled crosswalk
10 mph Pace Speed	21 - 30 mph		
Percentage of Vehicles in Pace	79.2%		
Number of Survey Samples	192		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	1.16
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	5,959
Type of Traffic Control	Traffic signal at Washington Blvd; stop at Carol Ave, Blacow Rd, and Main St
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3485'
Width	40'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	Yes
Bike Lanes?	No
Uncontrolled Crosswalks?	At Haven Ave
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, and commercial

COMMENTS

The 85th-percentile speed of 30.7 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 21 mph to 30 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk and fronting residential, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

76

STREET: State Street
FROM: Beacon Road

SURVEY DATE: 6/12/2019
TO: Mowry Avenue

SPEED DATA

Location of Speed Survey	State St 450' N/O Beacon Ave	Posted Speed Limit	No Posted Speed
Time of Speed Survey	9:10 AM - 11:00 AM	Recommended Speed Limit	25 mph
50th Percentile Speed (Mean Speed)	26.6 mph	Speed Limit Change	No
85th Percentile Speed	31.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate and downtown land uses
10 mph Pace Speed	23 - 32 mph		
Percentage of Vehicles in Pace	73.9%		
Number of Survey Samples	115		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	8.26
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	3,149
Type of Traffic Control	Signal at Mowry Ave; Stop Sign at Capitol Ave and Beacon Ave
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1520'
Width	50'
Number of Lanes	EB - 1 WB - 1
Street Classification	Collector
Divided Median?	No
Designated Bike Route?	Yes
Bike Lanes?	Yes - Discontinuous
Uncontrolled Crosswalks?	None
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, and commercial

COMMENTS

The 85th-percentile speed of 31.4 mph indicates a 30 mph speed limit. The 10 mph pace ranges from 23 mph to 32 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate and downtown land uses, downgrading of the speed limit of 5 mph is justified. Therefore, it is recommended that the posted speed limit to be at 25 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

77

STREET: Stevenson Boulevard
FROM: Mission Boulevard

SURVEY DATE: 9/27/2019
TO: Civic Center Drive

SPEED DATA

Location of Speed Survey	Stevenson Blvd 420' N/O Albany Common	Posted Speed Limit	40 mph
Time of Speed Survey	11:35 AM - 12:30 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.1 mph	Speed Limit Change	No
85th Percentile Speed	44.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to proximity to a park and School for Deaf and Blind
10 mph Pace Speed	36 - 45 mph		
Percentage of Vehicles in Pace	79.5%		
Number of Survey Samples	234		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	0.54
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	21,897
Type of Traffic Control	Traffic signals at Mission Blvd, Gallaudet Dr, Guardino Dr, Civic Center Dr
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	5280'
Width	96'
Number of Lanes	EB - 2/3 WB - 2/3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - between Albany Common and Civic Center Drive
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, police department, park, office, and school for the deaf

COMMENTS

The 85th-percentile speed of 44.4 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the proximity to California School for the Blind, California School for the Deaf and Central Park, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

78

STREET: Stevenson Boulevard
FROM: Civic Center Drive

SURVEY DATE: 9/27/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	Stevenson Blvd 450' S/O Liberty St	Posted Speed Limit	40 mph
Time of Speed Survey	12:50 PM - 1:50 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	38.7 mph	Speed Limit Change	Yes
85th Percentile Speed	42.1 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the adjacent downtown land use and high bicycle and pedestrian activity
10 mph Pace Speed	34 - 43 mph		
Percentage of Vehicles in Pace	84.2%		
Number of Survey Samples	240		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	20
Collision Rate (ACC/MVM)	0.81
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	27,962
Type of Traffic Control	Traffic signals at Civic Center Dr, Paseo Padre Pkwy, Liberty St, Leslie St, Fremont Blvd
Pedestrian Traffic	High
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	4255'
Width	107'
Number of Lanes	EB - 3 WB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes - on east side
Bike Lanes?	Yes - on west side
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, and library

COMMENTS

The 85th-percentile speed of 42.1 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 34 mph to 43 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the adjacent downtown land use and the high bicycle and pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit to be decreased to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

79

STREET: Stevenson Boulevard
FROM: Fremont Boulevard

SURVEY DATE: 9/25/2019
TO: Blacow Road

SPEED DATA

Location of Speed Survey	Stevenson Blvd 550' W/O Davis St	Posted Speed Limit	40 mph
Time of Speed Survey	9:25 AM - 10:15 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.6 mph	Speed Limit Change	No
85th Percentile Speed	44.4 mph	Speed Justification	85th-percentile speed downgraded due to the pace speed and proximity to school
10 mph Pace Speed	36 - 45 mph		
Percentage of Vehicles in Pace	81.3%		
Number of Survey Samples	246		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	37
Collision Rate (ACC/MVM)	0.87
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	38,499
Type of Traffic Control	Traffic signals at Blacow Rd, Sundale Dr, Besco Dr, Davis St, and Fremont Blvd
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	5303'
Width	72'
Number of Lanes	EB - 2/3 WB - 2/3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Frontage road
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	No
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, commercial, and school

COMMENTS

The 85th-percentile speed of 44.4 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 36 mph to 45 mph and the suggested speed limit does fall within this range. The collision rate is below the expected rate. Due to the pace speed and proximity to John F. Kennedy High School, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

80

STREET: Stevenson Boulevard
FROM: Blacow Road

SURVEY DATE: 5/28/2019
TO: I-880

SPEED DATA

Location of Speed Survey	5119 Stevenson Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	1:50 PM - 3:50 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	41.1 mph	Speed Limit Change	No
85th Percentile Speed	46.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to the proximity to school
10 mph Pace Speed	37 - 46 mph		
Percentage of Vehicles in Pace	75.0%		
Number of Survey Samples	200		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	21
Collision Rate (ACC/MVM)	0.81
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	48,475
Type of Traffic Control	Traffic signals at I-880 Ramps, Omar St, and Blacow Road
Pedestrian Traffic	Moderate
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	2582'
Width	86'
Number of Lanes	EB - 3 WB - 3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	Yes - I-880 overpass
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, commercial, and school

COMMENTS

The 85th-percentile speed of 46.6 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 37 mph to 46 mph and the suggested speed limit does fall within this range. The collision rate for this segment is below the expected rate. Due to the proximity of John F. Kennedy High School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

81

STREET: Stevenson Boulevard
FROM: I-880

SURVEY DATE: 5/30/2019
TO: Westerly End

SPEED DATA

Location of Speed Survey	40455 Encyclopedia Cir	Posted Speed Limit	40 mph
Time of Speed Survey	10:00 AM - 11:10 AM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.4 mph	Speed Limit Change	No
85th Percentile Speed	44.1 mph	Speed Justification	85th-percentile speed downgraded to be consistent with neighboring jurisdiction
10 mph Pace Speed	37 - 46 mph		
Percentage of Vehicles in Pace	79.3%		
Number of Survey Samples	116		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	27
Collision Rate (ACC/MVM)	0.81
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	23,323
Type of Traffic Control	Traffic signals at Boyce Rd, Cedar Blvd, Balentine Dr, I-880 ramps
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	6864'
Width	80'
Number of Lanes	EB - 2/3 WB - 2/3
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes - Discontinuous
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Discontinuous on the east side
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - at Boyce Rd
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Non-fronting residential, apartments, commercial, and office

COMMENTS

The 85th-percentile speed of 44.1 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 37 mph to 46 mph and the suggested speed limit does fall within this range. The collision rate is below the expected rate. To be consistent with the neighboring jurisdiction, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

82

STREET: Sundale Drive
FROM: Liberty Street

SURVEY DATE: 9/26/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	Sundale Dr 150' W/O Leslie St	Posted Speed Limit	30 mph
Time of Speed Survey	2:30 PM - 3:10 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	30.1 mph	Speed Limit Change	No
85th Percentile Speed	34.6 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	26 - 35 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	77.0%		high collision rate and the
Number of Survey Samples	100		proximity to hospital and
			senior living

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	7
Collision Rate (ACC/MVM)	5.51
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	3,615
Type of Traffic Control	Traffic sign at Fremont Blvd; stop sign at Liberty St
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1694'
Width	64'
Number of Lanes	NB - 1 SB - 1
Street Classification	Collector
Divided Median?	Two-way left-turn lane
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	Yes - between Fremont Blvd and Leslie St
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, commercial, hospital, office, and senior living

COMMENTS

The 85th-percentile speed of 34.6 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 26 mph to 35 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate and the proximity to Fremont Hospital and senior living, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

83

STREET: Thornton Avenue
FROM: I-880

SURVEY DATE: 1/31/2020
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	4771 Thornton Avenue	Posted Speed Limit	35 mph
Time of Speed Survey	1:22 PM - 2:16 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	32.1 mph	Speed Limit Change	No
85th Percentile Speed	37.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to fronting school and pace speed
10 mph Pace Speed	28-37 mph		
Percentage of Vehicles in Pace	70.3%		
Number of Survey Samples	246		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	39
Collision Rate (ACC/MVM)	1.22
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	25,535
Type of Traffic Control	Traffic signal at I-880 ramps, Blacow Rd, Dondero Way, Cabrillo Terrace, Contra Costa Ave, Dusterberry Way, and Fremont Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	6020'
Width	88'
Number of Lanes	NB - 2 SB - 2
Street Classification	Collector
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, commercial, business, church and school

COMMENTS

The 85th-percentile speed of 37.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to fronting Thornton Junior High School, and pace speed, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

84

STREET: Walnut Avenue
FROM: Argonaut Way

SURVEY DATE: 5/23/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	Walnut Ave 250' S/O Ross Terrace	Posted Speed Limit	30 mph
Time of Speed Survey	10:44 AM - 11:25 AM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	29.5 mph	Speed Limit Change	No
85th Percentile Speed	34.4 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to high collision rate, high pedestrian activity, downtown land uses and uncontrolled crosswalks
10 mph Pace Speed	26 - 35 mph		
Percentage of Vehicles in Pace	78.5%		
Number of Survey Samples	200		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	16
Collision Rate (ACC/MVM)	3.94
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	14,409
Type of Traffic Control	Traffic signal at Fremont Blvd; roundabout at Argonaut Wy
Pedestrian Traffic	High
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1360'
Width	64'
Number of Lanes	NB - 1/2 SB - 1/2
Street Classification	Collector
Divided Median?	Yes - and TWLTL
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	Yes - at Roundabout near Argonaut Way
On-Street Parking?	Yes - between Ross Common and Argonaut Way
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial and apartments

COMMENTS

The 85th-percentile speed of 34.4 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 26 mph to 35 mph and the suggested speed limit falls within this range. The collision rate is above the expected rate. Due to the higher than expected collision rate, high pedestrian activity, downtown land uses, and uncontrolled crosswalks, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

85

STREET: Walnut Avenue
FROM: Fremont Boulevard

SURVEY DATE: 5/23/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	Walnut Ave 900' S/O Liberty St Signal	Posted Speed Limit	35 mph
Time of Speed Survey	11:30 AM - 12:15 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	35.9 mph	Speed Limit Change	No
85th Percentile Speed	40.6 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	31 - 40 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	72.1%		downtown land uses, proximity to
Number of Survey Samples	226		hospital and senior living

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.61
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	14,983
Type of Traffic Control	Traffic signals at Fremont Blvd, Liberty St, and Paseo Padre Pkwy
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2659'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	Yes - Near California St
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, apartments, medical center, and senior living

COMMENTS

The 85th-percentile speed of 40.6 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the downtown land uses and proximity to Fremont Hospital and senior living, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

86

STREET: Warm Springs Boulevard
FROM: S Grimmer Blvd

SURVEY DATE: 5/28/2019
TO: Mission Boulevard

SPEED DATA

Location of Speed Survey	46025-46069 Warm Springs Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	10:45 AM - 12:00 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	36.6 mph	Speed Limit Change	No
85th Percentile Speed	40.2 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalk, moderate pedestrian and bicycle safety, and downtown land uses
10 mph Pace Speed	32 - 41 mph		
Percentage of Vehicles in Pace	79.5%		
Number of Survey Samples	112		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	5
Collision Rate (ACC/MVM)	0.29
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	29,412
Type of Traffic Control	Traffic signals at Mission Blvd, Mission Ct, and Fulton Pl
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	6120'
Width	85'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	At Warm Springs Ct
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Commercial, apartments, and office

COMMENTS

The 85th-percentile speed of 40.2 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 32 mph to 41 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk and pedestrian and bicycle safety, and downtown land uses, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

87

STREET: Warm Springs Boulevard
FROM: Mission Boulevard

SURVEY DATE: 5/28/2019
TO: Warren Avenue

SPEED DATA

Location of Speed Survey	46900 Shale Common	Posted Speed Limit	35 mph
Time of Speed Survey	10:30 AM - 11:40 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	29.0 mph	Speed Limit Change	No
85th Percentile Speed	35.0 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	25 - 34 mph		
Percentage of Vehicles in Pace	63.6%		
Number of Survey Samples	118		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	9
Collision Rate (ACC/MVM)	1.67
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	22,465
Type of Traffic Control	Traffic signals at Warren Ave and Mission Blvd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1155'
Width	96'
Number of Lanes	NB - 2/3 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Commercial, apartments, and office

COMMENTS

The 85th-percentile speed of 35.0 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 25 mph to 34 mph and the suggested speed limit falls above this range. The collision rate is above the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

88

STREET: Warm Springs Boulevard
FROM: Warren Avenue

SURVEY DATE: 5/30/2019
TO: Scott Creek Road

SPEED DATA

Location of Speed Survey	48233 Warm Springs Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	11:40 AM - 12:40 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	39.4 mph	Speed Limit Change	Yes
85th Percentile Speed	46.3 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	33 - 42 mph		downgraded 5 mph due to
Percentage of Vehicles in Pace	61.5%		proximity to school and moderate
Number of Survey Samples	130		pedestrian activity

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	16
Collision Rate (ACC/MVM)	0.38
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	21,456
Type of Traffic Control	Traffic signal at Warren Ave, Hackamore, Lippert Ave, Gable Dr, Mayten Wy, Tonopah Dr, and Scott Creek Rd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	9455'
Width	84'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Continuous on east side; discontinuous on west side
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, apartments, office, commercial, cemetery, church, and elementary school

COMMENTS

The 85th-percentile speed of 46.3 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 33 mph to 42 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to proximity to Warm Springs Elementary School and moderate pedestrian activity, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

89

STREET: Warm Springs Boulevard
FROM: Scott Creek Road

SURVEY DATE: 5/30/2019
TO: City Limits

SPEED DATA

Location of Speed Survey	Warm Springs Blvd 250' N/O Park Common	Posted Speed Limit	40 mph
Time of Speed Survey	11:50 AM - 12:50 PM	Recommended Speed Limit	40 mph
50th Percentile Speed (Mean Speed)	42.1 mph	Speed Limit Change	No
85th Percentile Speed	46.1 mph	Speed Justification	85th-percentile speed downgraded 5 mph to be consistent with neighboring jurisdiction
10 mph Pace Speed	37 - 46 mph		
Percentage of Vehicles in Pace	77.7%		
Number of Survey Samples	130		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	1
Collision Rate (ACC/MVM)	0.19
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	21,561
Type of Traffic Control	Traffic signal at Scott Creek Rd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1153'
Width	98'
Number of Lanes	NB - 2 SB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Non-fronting residential, and apartment

COMMENTS

The 85th-percentile speed of 46.1 mph indicates a 45 mph speed limit. The 10 mph pace ranges from 37 mph to 46 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. To be consistent with the neighboring jurisdiction, downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 40 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

90

STREET: Warren Avenue
FROM: I-880

SURVEY DATE: 5/29/2019
TO: Fremont Boulevard

SPEED DATA

Location of Speed Survey	400' W/O Lakeview Boulevard	Posted Speed Limit	35 - 40 mph
Time of Speed Survey	9:00 AM - 10:15 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.9 mph	Speed Limit Change	Yes
85th Percentile Speed	40.7 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to pace speed and pedestrian safety
10 mph Pace Speed	29-38 mph		
Percentage of Vehicles in Pace	63.5%		
Number of Survey Samples	115		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	1.29
Expected Collisions (ACC/MVM)	1.67

TRAFFIC FACTORS

Average Daily Traffic	7,507
Type of Traffic Control	Traffic signals at I-880 ramps, Fremont Boulevard, Bayside Parkway
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1990'
Width	72'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	No, Two Way Left Turn W/O Bayside Parkway
Designated Bike Route?	No
Bike Lanes?	No
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	No
Horizontal Curve	No
Visibility	Fair
Pavement Condition	Good
Adjacent Land Use	Commercial and office

COMMENTS

The 85th-percentile speed of 40.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Due to the pace speed and pedestrian safety, it is recommended that the posted speed limit be reduced to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

91

STREET: Warren Avenue
FROM: Warm Springs Boulevard

SURVEY DATE: 11/27/2019
TO: I-880

SPEED DATA

Location of Speed Survey	East of Mission Falls Ct	Posted Speed Limit	35 - 40 mph
Time of Speed Survey	2:45 PM - 3:30 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	28.7 mph	Speed Limit Change	Yes
85th Percentile Speed	33.5 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	24 - 33 mph		
Percentage of Vehicles in Pace	74.4%		
Number of Survey Samples	219		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	4
Collision Rate (ACC/MVM)	0.28
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	19,923
Type of Traffic Control	Traffic signals at Warm Springs Blvd, Kato Rd, and I-880 Ramps
Pedestrian Traffic	Low
Truck Traffic	Moderate

ROADWAY CHARACTERISTICS

Length of Segment	3450'
Width	70'-81'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes - Discontinuous
Driveways?	Few
Vertical Curve	Yes - I-880 Overpass and railroad underpass
Horizontal Curve	Yes - I-880 Overpass
Visibility	Fair
Pavement Condition	Good
Adjacent Land Use	Commercial and office

COMMENTS

The 85th-percentile speed of 33.5 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 24 mph to 33 mph and the suggested speed limit is above this range. The collision rate is below the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit decrease to 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Warren Avenue

Limits: Warm Springs Boulevard to I-880

Typical Cross-section

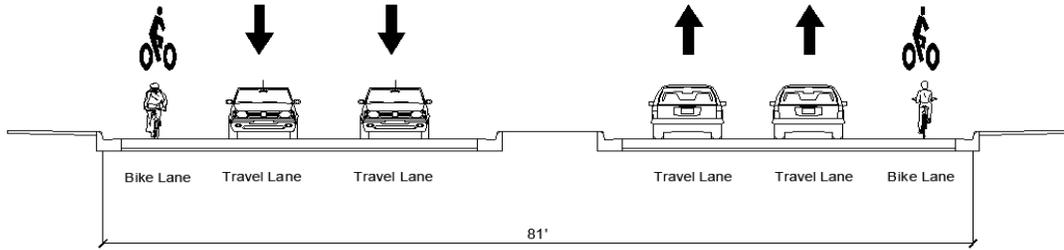


Diagram Not To Scale

Radar Survey Sheet

X = East / = West

	5	10	15	20	25	30			
60								0	
								0	
								0	
								0	
								0	
55								0	
								0	
								0	
								0	
								0	
50								0	
								0	
								0	
								0	
								0	
45								0	
								0	
/								1	0.5%
/								1	0.5%
								0	
X / /								3	1.4%
X / /								2	0.9%
X X /								3	1.4%
X / /								3	1.4%
/ /								2	0.9%
X / / /								4	1.8%
X X X X X / / / / /								10	4.6%
X X X / / / / /								7	3.2%
X X X X X X / / / / / / / /								14	6.4%
X X X X X X X / / / / / / / / / /								18	8.2%
X X X X X / / / / / / / / / / / /								15	6.8%
X X X X X X X X X X / / / / / / / / / / / /								22	10.0%
X X X X X X X X X / / / / / / / / / / / / / /								16	7.3%
X X X X X X X X X X X / / / / / / / / / / / /								20	9.1%
X X X X X X X X X X X / / / / / / / / / / / /								18	8.2%
X X X X X X X X X X / / / / / / / / / / / /								14	6.4%
25 X X X X X X X X X X X X / / / / / / / / / / / /								17	7.8%
X X X X / / / / / / / / / / / / / / / / / /								9	4.1%
X X X X / / / / / / / / / / / / / / / / / /								8	3.7%
X X X X X / / / / / / / / / / / / / / / / / /								9	4.1%
X /								2	0.9%
20 X								1	0.5%
								0	
								0	
								0	
								0	
15								0	
								0	
								0	
								0	
								0	
								0	
10								0	
								0	

Total Samples = 219

85th Percentile Speed: 33.5 mph
 50th Percentile Speed: 28.7 mph
 15th Percentile Speed: 24.2 mph
 10 MPH Pace: 24 - 33
 Number in Pace: 163
 Percent in Pace: 74.4%

Date of Survey: 11/27/19
 Weather: Clear
 Pavement Condition: Good
 Street Class.: Arterial - minor
 Field Study by: City of Fremont

Start Time: 2:45 PM
 End Time: 3:30 PM
 Posted Speed: 35 - 40 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

92

STREET: Warren Avenue
FROM: Warm Springs Boulevard

SURVEY DATE: 9/26/2019
TO: Navajo Way

SPEED DATA

Location of Speed Survey	Warren Ave 350' W/O Bradley St	Posted Speed Limit	35 mph
Time of Speed Survey	10:45 AM - 11:55 AM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	33.6 mph	Speed Limit Change	No
85th Percentile Speed	39.7 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalk and proximity to school
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	68.5%		
Number of Survey Samples	108		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	2
Collision Rate (ACC/MVM)	0.58
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	7,311
Type of Traffic Control	Traffic signal at Fernald St and Warm Springs Blvd
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	2260'
Width	83'
Number of Lanes	NB - 1/2 SB - 2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	Yes - At Bradley St
On-Street Parking?	Yes - Near James Leitch Elementary School
Sidewalks?	Yes- Discontinuous
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Fronting and non-fronting residential, apartments, commercial, school, and church

COMMENTS

The 85th-percentile speed of 39.7 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above the range. The collision rate is below the expected rate. Due to the uncontrolled crosswalk and proximity to James Leitch Elementary School, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

93

STREET: Warren Avenue
FROM: Navajo Way

SURVEY DATE: 5/29/2019
TO: Curtner Road

SPEED DATA

Location of Speed Survey	Warren Ave 200' E/O Yakima Dr	Posted Speed Limit	35 mph
Time of Speed Survey	11:15 AM - 12:15 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.1 mph	Speed Limit Change	No
85th Percentile Speed	39.3 mph	Speed Justification	85th-percentile speed downgraded due to corridor consistency and proximity to school
10 mph Pace Speed	29 - 38 mph		
Percentage of Vehicles in Pace	68.7%		
Number of Survey Samples	115		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	0
Collision Rate (ACC/MVM)	0.00
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	4,481
Type of Traffic Control	Stop sign at Curtner Rd and Yakima Dr
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	3260'
Width	83'
Number of Lanes	NB - 1/2 SB - 1/2
Street Classification	Arterial - minor
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes - Discontinuous
Uncontrolled Crosswalks?	None
On-Street Parking?	None
Sidewalks?	Yes- Discontinuous
Driveways?	Few
Vertical Curve	Yes - E/O I-680
Horizontal Curve	Yes - Yakima Dr
Visibility	Good
Pavement Condition	Moderate
Adjacent Land Use	Fronting and non-fronting residential

COMMENTS

The 85th-percentile speed of 39.3 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 29 mph to 38 mph and the suggested speed limit is above the range. The collision rate is below the expected rate. Due to corridor consistency and proximity to James Leitch Elementary School, downgrading of speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit remains at 35 mph.

**City of Fremont
Transportation Engineering Division**

Street Name: Warren Avenue

Limits: Navajo Way to Curtner Road

Typical Cross-section

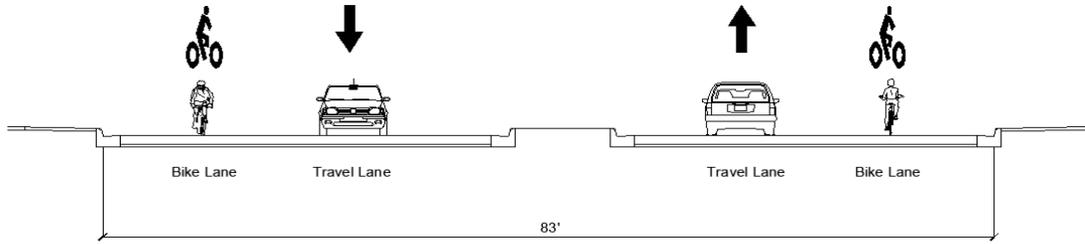


Diagram Not To Scale

Radar Survey Sheet

X = North / = South

	5	10	15	20	25	30			
60							0		
							0		
							0		
							0		
							0		
55							0		
							0		
							0		
							0		
							0		
50							0		
							0		
							0		
							0		
	/						1	0.9%	100.0%
							0		
45	/						1	0.9%	99.1%
	/ / / /						4	3.5%	98.3%
	/ / /						3	2.6%	94.8%
	/						1	0.9%	92.2%
	/ / /						3	2.6%	91.3%
40	X X X X / /						6	5.2%	88.7%
	X X X X X / / /						8	7.0%	83.5%
	/ / / / / / /						7	6.1%	76.5%
	X / / / / /						6	5.2%	70.4%
	X X X X / / / /						8	7.0%	65.2%
35	X X X / / / / / / / /						11	9.6%	58.3%
	X X X X X X X / /						10	8.7%	48.7%
	X X X X X X / /						8	7.0%	40.0%
	X X / / / / /						7	6.1%	33.0%
	X X X X X X /						8	7.0%	27.0%
30	X X X X /						5	4.3%	20.0%
	X X X X X X X / /						9	7.8%	15.7%
	X X / / /						5	4.3%	7.8%
	X						1	0.9%	3.5%
							0		
25	X /						2	1.7%	2.6%
							0		
							0		
							0		
							0		
20	X						1	0.9%	0.9%
							0		
							0		
							0		
15							0		
							0		
							0		
							0		
10							0		

Total Samples = 115

85th Percentile Speed: 39.3 mph
50th Percentile Speed: 34.1 mph
15th Percentile Speed: 28.9 mph
10 MPH Pace: 29 - 38
Number in Pace: 79
Percent in Pace: 68.7%

Date of Survey: 5/29/19
Weather: Clear
Pavement Condition: Moderate
Street Class.: Arterial - minor
Field Study by: ATD / KHA

Start Time: 11:15 AM
End Time: 12:15 PM
Posted Speed: 35 mph

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

94

STREET: Washington Boulevard
FROM: Fremont Boulevard

SURVEY DATE: 5/28/2019
TO: Driscoll Road

SPEED DATA

Location of Speed Survey	3909 Washington Blvd	Posted Speed Limit	35 mph
Time of Speed Survey	1:00 PM - 1:45 PM	Recommended Speed Limit	30 mph
50th Percentile Speed (Mean Speed)	31.8 mph	Speed Limit Change	Yes
85th Percentile Speed	35.6 mph	Speed Justification	85th-percentile speed downgraded 5 mph due to pedestrian and bicycle safety and for consistency with adjacent downtown segments
10 mph Pace Speed	28 - 37 mph		
Percentage of Vehicles in Pace	81.0%		
Number of Survey Samples	216		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	8
Collision Rate (ACC/MVM)	0.81
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	28,241
Type of Traffic Control	Traffic signals at Fremont Blvd, Roberts Ave, and Driscoll Rd
Pedestrian Traffic	Moderate
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	1680'
Width	64'
Number of Lanes	EB - 2/3 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes-east of Roberts Ave
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	No
On-Street Parking?	No
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	Yes - E/O Fremont Blvd
Horizontal Curve	Yes - E/O Fremont Blvd
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Commercial, church, and preschool

COMMENTS

The 85th-percentile speed of 35.6 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 28 mph to 37 mph and the suggested speed limit falls within this range. The collision rate is below the expected rate. Due to pedestrian and bicycle safety and for consistency with adjacent downtown segments, a downgrading of the speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 30 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

95

STREET: Washington Boulevard
FROM: Driscoll Road

SURVEY DATE: 9/26/2019
TO: Paseo Padre Parkway

SPEED DATA

Location of Speed Survey	Washington Blvd 600' W/O Paseo Pac	Posted Speed Limit	40 mph
Time of Speed Survey	12:25 PM - 1:25 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	34.7 mph	Speed Limit Change	Yes
85th Percentile Speed	39.9 mph	Speed Justification	85th-percentile speed downgraded due to uncontrolled crosswalk and corridor consistency
10 mph Pace Speed	31 - 40 mph		
Percentage of Vehicles in Pace	72.0%		
Number of Survey Samples	161		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	0.31
Expected Collisions (ACC/MVM)	1.35

TRAFFIC FACTORS

Average Daily Traffic	34,708
Type of Traffic Control	Traffic signal at Osgood Rd, Meredith Dr, I-680 Ramps, and Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	5805'
Width	76'
Number of Lanes	EB - 2 WB - 2
Street Classification	Arterial - major
Divided Median?	Yes
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Olive Ave
On-Street Parking?	Yes - On north side only
Sidewalks?	Yes
Driveways?	Many
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, commercial, and church

COMMENTS

The 85th-percentile speed of 39.9 mph indicates a 40 mph speed limit. The 10 mph pace ranges from 31 mph to 40 mph and the suggested speed limit falls within this range. Due to the uncontrolled crosswalk and corridor consistency, downgrading of speed limit by 5 mph is justified. Therefore, it is recommended that the posted speed limit decrease to 35 mph.

CITY OF FREMONT

ENGINEERING AND TRAFFIC SURVEY

96

STREET: Washington Boulevard
FROM: Paseo Padre Parkway

SURVEY DATE: 11/1/2019
TO: Mission Boulevard

SPEED DATA

Location of Speed Survey	Between Paseo Padre Pkwy and Mission Blvd	Posted Speed Limit	40 mph
Time of Speed Survey	1:22 PM - 2:16 PM	Recommended Speed Limit	35 mph
50th Percentile Speed (Mean Speed)	29.1 mph	Speed Limit Change	Yes
85th Percentile Speed	34.5 mph	Speed Justification	85th-percentile speed
10 mph Pace Speed	26 - 35 mph		
Percentage of Vehicles in Pace	69.2%		
Number of Survey Samples	201		

COLLISION HISTORY

Number of Years Studied	3
Total Collisions	13
Collision Rate (ACC/MVM)	1.54
Expected Collisions (ACC/MVM)	1.36

TRAFFIC FACTORS

Average Daily Traffic	9,868
Type of Traffic Control	Traffic signal at Mission Blvd and Paseo Padre Pkwy
Pedestrian Traffic	Low
Truck Traffic	Low

ROADWAY CHARACTERISTICS

Length of Segment	4116'
Width	82'
Number of Lanes	EB - 1 WB - 1/2
Street Classification	Collector
Divided Median?	TWLTL
Designated Bike Route?	Yes
Bike Lanes?	Yes
Uncontrolled Crosswalks?	At Gallegos Ave, Jerome Ave, Coit Ave, and Bryant St
On-Street Parking?	Yes
Sidewalks?	Yes
Driveways?	Few
Vertical Curve	None
Horizontal Curve	None
Visibility	Good
Pavement Condition	Good
Adjacent Land Use	Fronting and non-fronting residential, commercial, and school

COMMENTS

The 85th-percentile speed of 34.5 mph indicates a 35 mph speed limit. The 10 mph pace ranges from 21 mph to 50 mph and the suggested speed limit is within this range. The collision rate is above the expected rate. Based on the 85th-percentile speed, it is recommended that the posted speed limit decrease to 35 mph.

