ENGINEERING AND TRAFFIC SURVEY FOR SPEED LIMITS

CITY OF DESERT HOT SPRINGS

NOVEMBER 2018

PREPARED FOR:

CITY OF DESERT HOT SPRINGS
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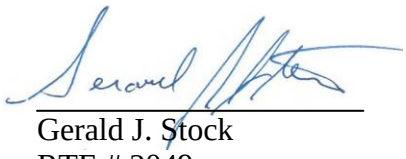
CERTIFICATION

I, Gerald Stock, do hereby certify that this 2018 Engineering & Traffic Survey of 36 street segments for the City of Desert Hot Springs was performed under my supervision and is accurate and complete. I certify that I am both experienced in performing surveys of this type and duly registered in the State of California as a professional Traffic Engineer.



Gerald J. Stock
RTE # 2049

File: DHS Radar Rpt 2018.doc

CITY OF DESERT HOT SPRINGS
ENGINEERING AND TRAFFIC SURVEY FOR SPEED LIMITS

Introduction

In accordance with procedures established by the State of California, this Engineering and Traffic Survey has been developed for the City of Desert Hot Springs as the basis for the establishment and enforcement of speed limits for selected streets within the City. The work provided herein was authorized by the City and was performed by the engineering consulting firm of Hartzog & Crabill. The goal of the review was two-fold. The first was to review new roadway segments to determine if speed limit postings should be recommended. The second involved a determination as to whether changes in pre-existing conditions have occurred where older speed limits should be modified.

The requirement to perform Engineering and Traffic surveys for speed limits is based on the California Vehicle Code (CVC). CVC Section 40802 states that at least once every five (5), seven (7) or ten (10) years, States and local agencies should re-evaluate non-statuary speed limits on segments of their roadways. Engineering and Traffic Surveys must be performed with the use of radar or other approved electronic devices if the use of radar is to be employed to enforce speed limits. If such a survey is not performed within five years (or seven years, or ten years as stated previously) of the date of the preceding survey, then the new data and its use will constitute a speed trap. Hence, evidence using such would not be admissible in court. From the Vehicle Code, a "speed trap" is either of the following:

(a) 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.

(b) A particular section of a highway with a prima facie speed limit provided by this code or by local ordinance under sub-paragraph (A) of paragraph (2) of subdivision (a) of Section 22352, or established pursuant to 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 where enforcement involves the use of radar or other electronic devices that measures the speed of moving objects. This paragraph does not apply to a local street, road, or school zone.

The definition of a Traffic and Engineering Survey is contained in Section 627 of the Vehicle Code and is as follows:

Engineering and Traffic survey, as used in this code, means a survey of highway and traffic conditions in accordance with methods determined by the California Department of Transportation (Caltrans) for use by State and local authorities. An engineering and traffic survey shall include, among other requirements deemed necessary by the department, consideration of the following:

(a) Prevailing speeds as determined by traffic engineering measurements.
(b) Accident records.
(c) Highway, traffic and roadside conditions not readily apparent to the driver.

The California Vehicle code has set certain regulations regarding the posting and enforcement of speed zones. These regulations generally reflect the viewpoint that speed zoning should be based on traffic conditions and natural driver behavior and not because of an arbitrary response to a traffic event or occurrence. Therefore, it is important to have a general understanding of the "Basic Speed Law", "Prima Facie Speed Limits" and "Intermediate Speed Zones".

Basic Speed Law (CVC 22350)

All fifty states base their speed regulations on the Basic Speed Law. In California, CVC 22350 defines the basic speed law as:

"No Person shall drive a vehicle upon a highway at a speed greater than is reasonable or prudent having due regard for weather, visibility, the traffic on, and the surface and width of the highway, and in no event at a speed which endangers the safety of persons or property."

This law recognizes that driving conditions vary widely from time-to-time and place-to-place and, therefore, no set of fixed driving rules will adequately serve all conditions. The motorist will constantly adjust their driving behavior to fit the conditions encountered, and must learn to do this with a minimum of assistance from the police. The Basic Speed Law is founded on the belief that a majority of motorists are able to modify their driving behavior properly, as long as they are aware of the conditions around them.

Prima Facie Speed Limits (CVC 22352)

All other speed limits are prima facie limits which, "on the face of it", are reasonable and prudent under normal conditions. Certain prima facie limits are automatically established by law (CVC 22352), including a 15 mph limit in alleys, blind intersections, blind railroad crossing, and the 25 mph limit in business and residence districts. There is also a part time 25 mph limit in school zones when children are present in route to or from school.

Business and residence districts are defined in the Vehicle Code as specific areas meeting a specified minimum density of roadside development. CVC Sections 235 and 515 define these regulations. A count of houses or active businesses facing on a highway must be made to determine whether or not a valid business or residence district exists. The law does not require posting these prima facie limits that are readily apparent.

Residence District (CVC 515)

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.

Business District (CVC 235)

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 business in use for business to the length of the highway exists.

Establishment of Speed Zones

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

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

Data Collection Procedures

Speed evaluation data was collected at 36 different roadway segments on 11 different roadways in the Community of Desert Hot Springs. These areas and the number of segments on each are described as follows:

1. Desert View Ave (1)
2. Hacienda Ave (6)
3. Indian Canyon Dr (2)
4. Little Morongo Rd (3)
5. Miracle Hill Rd (1)
6. Mission Lakes Bl (2)
7. Mountain View Rd (1)
8. Palm Dr (8)
9. Pierson Bl (7)
10. Two Bunch Palms Trail (3)
11. West Dr (2)

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

a. Stop sign or traffic signal locations;

b. Visibility issues;

c. Traffic flow at intersections, cross-traffic, major driveways, crosswalks, railroad crossings and unusual turning movements;

d. The influence of other traffic factors on the speed of cars: such as on street parking, roadway features, adjacent land uses, and lighting.

Speed Zoning Methodology

The California Manual on Uniform Traffic Control Devices (CA. MUTCD) specifies a "short method of determining speed limits on City and County through Highways, Arterial and Collector Roads Procedures.

Introduction - This short method of speed zoning is based on the premise that the reasonable speed limit is one that conforms to the actual behavior of the majority of motorists, and that by measuring motorist's speeds, one will be able to select a speed limit that is both reasonable and effective. Other factors that need to be considered include, but are not limited to: the most recent two-year collision record, roadway design speed, safe stopping sight distance, super-elevation, shoulder conditions, profile conditions, intersection spacing and offsets, commercial driveway characteristics, pedestrian traffic in the roadway without sidewalks.

Speed Zone Survey

- Only one person is required for the fieldwork. Speeds can be read directly from a radar speed meter.

- A section of road should be selected with representative operating speeds. If speeds vary on a given road, additional surveys should be conducted. In this case, it may be necessary to establish additional speed zones with different speed limits. The section selected should be straight and should have no traffic signal, stop sign or intersection with a major cross street.

- Speed measurements should be taken during off-peak hours on weekdays. The weather should be fair with no unusual conditions prevailing. It is important that the surveyor and his equipment be so inconspicuous as not to affect traffic speeds. For this reason, an unmarked car is recommended, with the radar speed meter located as inconspicuously as possible. It should be placed so as to be able to survey traffic in both directions, and should not make an angle greater than 15 degrees with the roadway centerline.

- The survey should have a minimum sample of 100 automobiles in each survey. This may result in excessive survey periods for low-volume roads. Under these conditions, the survey should be conducted for a minimum of two hours, but in no case should the sample for any survey contain less than 50 automobiles.

- The California MUTCD states that speed limits are established at or near the 85th percentile speed, which is defined as that speed at or below which 85 percent of the traffic is moving. This speed can be selected directly from the data sheet. However, roadway conditions not readily apparent to the motorist or other roadway conditions that may impact sight distance may result in a further reduction of 5 mph in the recommended speed limit.

- As a check on the validity of the proposed speed limit, an analysis should be made of the two-year accident record for the section of roadway under consideration. If this record shows an abnormally high percentage of accidents normally associated with excessive speeds, the

proposed speed limit should be further reduced. This is a judgment situation, and will not usually be a factor,

- Short speed zones of less than half a mile should be avoided, except in transition areas.

- Speed zone changes should be coordinated with changes in roadway conditions or roadway development.

- Speed zoning in 5 mile per hour increments should be avoided if possible. A 10-mile per hour increment is preferable.

- Speed zoning should be coordinated between adjacent jurisdictions.

Local Street Exemptions (CVC 40802)

Many streets are designated as "Local" streets per CVC 40802. These streets are exempt from the radar study. Therefore, the speed limit for these streets does not require an Engineering and Traffic Survey. The code is as follows:

"For the purpose of this section, local streets and roads shall be defined by the latest California Road System Maps as approved by the Federal Highway Administration. When these streets do not appear on the California Road System Maps, the following definition shall be used: A local street or road primarily provides access to abutting residential property and shall meet the following three conditions:

1. Roadway width of not more than 40 feet.
2. Not more than one half mile of uninterrupted length.
3. Not more than one traffic lane in each direction.

Other Considerations

Every street should be inspected for unusual traffic, roadway and roadside conditions not readily apparent to a motorist. A check should be made of the adequacy of traffic control devices, roadway alignment, width surface conditions, accident history and any unique traffic hazards that may exist. Any of these conditions may warrant the selection of a speed lower than the 85th percentile speed for speed zoning.

Radar Collection Time Frames

The hours of radar operation were restricted to off-peak periods for heavily traveled streets and to uncongested peak periods on lightly traveled streets. All surveys were conducted in fair weather.

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

The radar operator and assistant recorded the speed meter readings for each location on Radar Speed Survey Field Sheets included in the appendix of this report. A representative sampling of at least 50 vehicles were surveyed in each direction or a cumulative sample of 100 vehicles for both directions where possible. On low volume roads, where a total sample of 100 vehicles would result in an excessive time period, sampling was continued until a representative bell-shaped frequency distribution was attained.

Analysis Factors

Several factors were used as input to our recommendations for speed limits. These include the 85th Percentile, the 10 MPH Pace and others. These are described in detail below.

1. The **CRITICAL SPEED**, or the 85th percentile is defined as that speed at or below which 85 percent of the traffic is moving. From experience, traffic engineers have found that this is one of the most reliable factors in determining appropriate speed limits.

   Hence, the accepted practice, and one that has been used in this case is to set the speed limit at or near the critical speed. This recognizes that other factors could be present where the above may not be appropriate. When this procedure is used, it not only conforms to that required by the State but it also provides a strong base for law enforcement personnel to properly enforce speed limits.

2. The **10 MPH PACE** is that continuous 10 mph incremental range of speeds in which the largest number of recorded vehicles is contained. It is a measure of the dispersion of speeds within the sample surveyed. For this element, the accepted practice to the greatest extent possible is to try and keep the recommended speed limit within the 10 mph pace after considering the critical speed and any factors requiring a speed lower than the critical speed.

3. The **MEDIAN (MIDDLE) 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% of the vehicles travel faster, and 50% travel slower than the median speeds. This value is another measure of the central tendency of the vehicle speed distribution.

4. The **15th PERCENTILE SPEED** is that speed at or below which 15% of the vehicles are traveling. This value is important in determining the minimum allowable speed limit, given that the vehicles traveling below this speed tend to obstruct the flow of traffic, thereby increasing the accident potential.

5. **MODAL SPEED**: The modal speed is the speed, which occurs most frequently in the distribution (the most). It serves as another useful measure in verifying the correct recommendation for speed limits.

6. **STANDARD DEVIATION**: This is a mathematical element, which relates to measures of dispersion of data. It is used to assist in describing the center of speed distribution information around the arithmetic mean or the time mean speed. It also is used in the

overall review of recommended speed limits and serves to verify the level of confidence of data used in making recommendations.

7. The **MEAN (AVERAGE)** is the sum of the speeds of the samples divided by the number of samples.

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

Field Review

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

1. Segment length, width and alignment
2. Level of pedestrian activity
3. Traffic flow characteristics
4. Vertical and/or horizontal curves.
5. Driver sight distance constraints.
6. Adjacent residential/commercial/industrial etc. zoning.
7. Number of lanes and other channelization/striping factors
8. Frequency of intersections, driveways and on street parking;
9. Location of stop signs, traffic signals, and other regulatory traffic control devices;
10. Roadway conditions, bumps and dips;
11. Obstructions to pedestrian visibility;
12. Land use and proximity of schools;
13. Uniformity with existing speed zones to/with adjacent jurisdictions;
14. Any other unusual conditions not readily apparent to the driver.

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

Accident History

The Engineering and Traffic Survey forms summarize the available two-year accident information for the subject streets. The accident information includes the total number of accidents within each street segment and of those accidents, the number that are speed-related. This information was obtained from the California Statewide Integrated Traffic Records System (SWITRS) for the City of Desert Hot Springs. The annual accident rate figures represent the number of speed-related accidents divided by years of accident records. The evaluation of accidents is useful as a check on the accuracy of recommended or existing speed limits. Should this review show a high percentage of accidents associated with excessive speeds, consideration

based on professional traffic engineering judgment should be directed toward reducing the posted or recommended speed limit.

Results and Recommendations

The following Summaries: No Speed Limit Changes, New Speed Limit Postings, Speed Limit Increases, Speed Limit Reductions, Conflicting Speed Limit Signs, and the Summary of Recommendations presents the results of the radar survey for the selected 38 locations. As shown, the Summary of Recommendations chart presents the necessary analysis elements that in addition to the field review of a registered traffic engineer led to the recommendations indicated.

Locations of "No Speed Limit Changes"

The Summary indicates that 31 of the 36 segments studied are recommended for no speed limit changes. The reason centers mostly on the fact that the newly measured values of the 85th percentile and the 10 MPH pace are still within the parameters of the existing speed limits. Additional factors such as the presence of horizontal or vertical curves reducing sight distance form the basis in some instances of our recommendation. Therefore, the current postings should remain as is. At eleven of these locations, only one direction of travel is posted and is listed for no change in the speed limit. Hence, the other direction should be posted for consistency. These segments noted as "install", as well as the segments recommended for "No Change" are listed below:

Desert View Avenue	
Miracle Hill Rd to Mountain View Rd	Remain posted at 35 mph
Hacienda Avenue	
Octillo Rd to Verbena Dr	Remain posted at 40 mph
Verbena Dr to Miracle Hill Rd	Remain posted at 40 mph
Miracle Hill Rd to Mountain View Rd	Remain posted at 40 mph
Mountain View Rd to East City Limit	Remain posted at 40 mph
Indian Canyon Drive	
North City Limits to Mission Lakes Bl	Install northbound 55 mph
Mission Lakes Bl to Pierson Bl	Install southbound 55 mph
Little Morongo Road	
Pierson Bl to Two Bunch Palms Trail	Remain posted at 55 mph
Two Bunch Palms Trail to South City Limits	Remain posted at 55 mph
Mission Lakes Boulevard	
Indian Canyon Dr to Little Morongo Rd	Remain posted at 50 mph
Little Morongo Rd to West Dr	Remain posted at 45 mph
Mountain View Road	
Hacienda Ave to South City Limit	Remain posted at 35 mph

Palm Drive

Mission Lakes Bl to 8th St	Remain posted at 35 mph
8th St to Pierson Bl	Remain posted at 35 mph
Pierson Bl to Hacienda Ave	Remain posted at 35 mph
Hacienda Ave to Two Bunch Palms Trail	Remain posted at 35 mph
Two Bunch Palms Trail to Camino Campanero	Remain posted at 40 mph
Camino Campanero to Camino Aventura	Remain posted at 45 mph
Camino Aventura to Dillon Rd (SB only)	Remain posted at 55 mph
Dillon Rd to South City Limit	Remain posted at 60 mph

Pierson Boulevard

Hwy 62 to Skyborne Dr	Install westbound 55 mph
Skyborne Dr to Indian Canyon Dr	Install eastbound 55 mph
Indian Canyon Dr to Little Morongo Rd	Remain posted at 50 mph
Little Morongo Rd to Atlantic/Golden Eagle	Remain posted at 50 mph
Atlantic/Golden Eagle to West Dr	Remain posted at 45 mph
West Dr to Palm Dr	Remain posted at 35 mph
Palm Dr to Miracle Hill Rd	Remain posted at 35 mph

Two Bunch Palms Trail

West Dr to Palm Dr	Remain posted at 40 mph
Palm Dr to Miracle Hill Rd	Install westbound at 35 mph

West Drive

Mission Lakes Bl to Pierson Bl	Remain posted at 30 mph
Pierson Bl to Two Bunch Palms Trail	Remain posted at 35 mph

Support Explanations for "No Speed Limit Changes"

The following are support explanations for those segments listed as "No Speed Limit Changes" where the recommended speed limit is more than 5 mph lower than the newly measured 85th percentile speed and/or the segments that have a speed limit sign posted in one direction only and requiring the installation of an appropriate speed sign in the other direction. The various reasons for the recommendations are provided below.

Indian Canyon Drive

North City Limit to Mission Lakes Boulevard

The recommended 55 mph speed limit is within 3.8 mph of the 85th percentile speed and meets CVC standards. For enforcement, a similar speed sign should be installed northbound north of Mission Lakes Boulevard.

Mission Lakes Boulevard to Pierson Boulevard

The recommended 55 mph speed limit is within 4.1 mph of the 85th percentile speed and meets CVC standards. For enforcement, a 55 mph speed sign should be installed for the southbound direction.

Pierson Boulevard

Highway 62 to Skyborne Drive

The recommended 55 mph speed limit is within 1.9 mph of the 85th percentile speed and meets CVC standards. For enforcement, it is recommended that a 55 mph speed sign be posted for the westbound direction west of Skyborne Drive.

Skyborne Drive to Indian Canyon Drive

This section of Pierson Boulevard is a two lane roadway with slight up-down grades. A 55 mph speed sign is posted westbound only. The recommended 55 mph speed limit is within 0.2 miles of 85th percentile speed and meets CVC standards. Also for enforcement, a 55 mph speed sign should be installed eastbound east Skyborne Drive.

Two Bunch Palms Trail

Palm Drive to Miracle Hill Road

This section of Two Bunch Palms Trail is a two lane roadway. The adjacent land uses are residential, a middle school, a resort spa and commercial. The roadway has slight up-down grades with a dip at Mark Drive and a sweeping "S" curve east of Verbena Drive. With the speed data showing an 85th percentile speed of 39.7 mph, it is recommended that the existing 35 mph speed limit remain. For enforcement, a 35 mph speed sign should be posted for the westbound direction west of Miracle Hill Road.

West Drive

Mission Lakes Boulevard to Pierson Boulevard

This portion of West Drive is a two lane roadway. The current speed limit is 30 mph with a 25 mph speed when children present in the school zone. Field observations include many crosswalks near elementary school, heavy school age pedestrian and bicycle traffic, heavy cross streets, no parking anytime, painted bike lanes, slight to gradual up and downhill grades, areas of limited sight distance at grades, and a steep dip at 8th Street. Although the speed data may suggest a higher speed but with the characteristics of area and areas of limited sight distance due to the roadway grades and dips, it is recommended that the existing 30 mph speed limit be maintained.

Locations of "Conflicting Speed Postings"

At one location of the thirty-eight segments studied has conflicting speed limit signs posted within the segment boundaries. This roadway segment has one direction or a portion of the survey segment recommended for "No Change" of the existing speed limit and is recommended for removal of the conflicting sign and/or replacement of the appropriate speed sign in the other direction. This segment and the reason for the recommendation is listed below:

Two Bunch Palms Trail	
Little Morongo Rd to West Dr	Remain posted at 45 mph, and Remove 35 mph postings westbound

Support Explanations for "Conflicting Speed Postings"

Two Bunch Palms Trail

Little Morongo Road to West Drive

This portion of Two Bunch Palms Trail is a two lane roadway. It has a conflicting speed limit signs posted westbound with 35 mph and 45 mph. Adjacent land uses are industrial and business. With the speed survey results showing an 85th percentile speed of 47.9 mph and a 10 mph pace range of 41 to 50 mph, it is recommended that the existing 45 mph be maintained and the 35 mph sign be removed westbound.

Locations of "Residence District"

One roadway segment listed in the 2018 E & T Speed Study falls under the California Vehicle Code 515, "Resident District Speed Limit." Explanations and requirements for Resident District are on Page 2. The CVC states that prima facie roadways are not required to be posted. Therefore, the City may choose to remove existing speed signs or leave them alone. These roadway segments are not required to be included in further speed studies and are listed below:

Miracle Hill Road

Pierson Bl to Hacienda Ave 2013 E & T, Established as Resident District – 25 mph

Support Explanations for "Resident District"

Miracle Hill Road

Pierson Boulevard to Hacienda Avenue

Miracle Hill Road is a two lane residential roadway. Field observations include single family residential with heavy direct driveways, areas of undeveloped land, and the roadway has a slight upgrade northbound. The need to retain the CVC defined lower speed is based on the fact that 17 single-family dwellings with direct driveways exist within a 0.25 mile section between Desert View Avenue and Hacienda Avenue. This segment meets the requirement for the CVC 515 "Resident District". Therefore with these factors, it is recommended that the City establish this segment of Miracle Hill Road a "Resident District". This segment does not require continued speed surveys.

Locations of "New Speed Limit Postings"

One of the 36 roadway segments is currently unposted, with no speed signs posted for either direction of the roadway. Again, the newly measured values of the 85th percentile speeds and the 10 mph pace range were factors used to make these recommendations. It is noted that for each case, the recommendation to post is necessary to enhance the enforcement of the recommended safe speed limit. These segments are shown in the Summary of Recommendations beginning on page 13 and are as follows:

Hacienda Avenue

Palm Dr to Octillo Rd Install New Posting of 35 mph

Support Explanations for "New Speed Limit Postings"

Hacienda Avenue

Palm Drive to Octillo Road

This section of Hacienda Avenue is a short 0.13 mile segment with two lanes per direction. Currently, there is no speed limit signs posted within the segment. The adjacent land uses are commercial (south-side) and residential (north-side). With the speed survey resulting with an 85th percentile speed of 37.0 mph and a 10 mph pace range of 29 to 38 mph, it is recommended that a 35 mph speed limit be established and posted for this section.

Locations of Speed Limit Reductions

At one location, the Engineering and Traffic survey data indicates a need for a speed limit reduction. This segment and reasons for the recommendation are explained below:

Hacienda Avenue

West Dr to Palm Dr — Reduce from 45 mph to 40 mph

Support Explanations for "Speed Limit Reductions"

Hacienda Avenue

West Drive to Palm Drive

This section of Hacienda Avenue is a two lane roadway with a 45 mph speed limit. The adjacent land use is residential (fronting) and commercial at Palm Drive. Field observations are slight downhill grade eastbound, painted bike lane westbound only and partial dirt shoulders. With the speed survey resulting with an 85th percentile of 42.4 mph, a 10 mph pace range of 32 to 41 mph, it is recommended that the existing 45 mph be reduced to 40 mph.

Locations of "Speed Limit Increases"

With the combination of the speed data's 85th percentile speed and 10mph pace range, our field review and 2 year accident history, one segment is recommended for a speed limit increase and is listed below:

Little Morongo Road

Mission Lakes Bl to Pierson Bl — Increase speed from 45 mph to 50 mph

Support Explanations of "Speed Limit Increases"

Little Morongo Road

Mission Lakes Boulevard to Pierson Boulevard

This section of Little Morongo Road is a two lane rural roadway. Field observations include several up/downhill grades, a narrow roadway with dirt shoulders, residential non-fronting and commercial s/o Mission Lakes. The speed study results revealed an 85th percentile speed of 55.7 mph, and a 10 mph pace range of 46 to 55 mph. With the roadway grades and areas of limited sight distance, it is recommended that the existing 45 mph be increased to 50 mph (falls mid-range of 10 mph pace) rather than 55 mph that the speed data may suggest.

SUMMARY OF RECOMMENDATIONS – E & T STUDY 2018

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	JUSTIFICATION / COMMENTS
DESERT VIEW AVENUE							
MIRACLE HILL RD TO MOUNTAIN VIEW RD	35	**35**	38.1	34.4	31-40	82.3	NO CHANGE – 85TH PERCENTILE
HACIENDA AVENUE							
WEST DR TO PALM DR	45	**40**	42.4	36.5	32-41	64.4	REDUCE – 85TH PERCENTILE
PALM DR TO OCTILLO RD	NP	**35**	37.0	32.5	29-38	77.1	NEW POSTING – 85TH PERCENTILE
OCTILLO RD TO VERBENA DR	40	**40**	42.7	38.6	35-44	84.8	NO CHANGE – 85TH PERCENTILE
VERBENA DR TO MIRACLE HILL RD	40	**40**	44.9	40.5	36-45	78.7	NO CHANGE – 85TH PERCENTILE
MIRACLE HILL RD TO MOUNTAIN VIEW RD	40	**40**	40.1	35.8	32-41	79.1	NO CHANGE – 85TH PERCENTILE
MOUNTAIN VIEW RD TO EAST CITY LIMITS	40 / 25*	**40**	44.9	39.1	33-42	65.8	NO CHANGE – 85TH PERCENTILE
INDIAN CANYON DRIVE							
NORTH CITY LIMITS TO MISSION LAKES BL	55 SB	**55**	58.8	54.9	51-60	67.1	NO CHANGE – 85TH PERCENTILE – POST NB
MISSION LAKES BL TO PIERSON BL	55 NB	**55**	59.1	54.8	51-60	63.9	NO CHANGE – 85TH PERCENTILE – POST SB
LITTLE MORONGO ROAD							
MISSION LAKES BL TO PIERSON BL	45	**50**	55.7	50.9	46-55	75.0	INCREASE – 85TH PERCENTILE / LIMITED SIGHT DISTANCE
PIERSON BL TO TWO BUNCH PALMS TR	55	**55**	57.3	53.3	49-58	70.9	NO CHANGE – 85TH PERCENTILE
TWO BUNCH PALMS TR TO SOUTH CITY LIMITS	55	**55**	57.5	52.7	51-60	62.0	NO CHANGE – 85TH PERCENTILE

*25 mph When Children Present
NB = Northbound
SB = Southbound
NP = Not Posted
EB = Eastbound
WB = Westbound

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	JUSTIFICATION / COMMENTS
MIRACLE HILL ROAD							
PIERSON BL TO HACIENDA AVE	30	**25**	33.5	29.2	27-36	77.9	ESTABLISH AS "RESIDENT DISTRICT" CVC 515
MISSION LAKES BOULEVARD							
INDIAN CANYON DR TO LITTLE MORONGO RD	50	**50**	51.9	48.0	44-53	79.5	NO CHANGE – 85TH PERCENTILE
LITTLE MORONGO RD TO WEST DR	45	**45**	49.9	45.0	41-50	79.5	NO CHANGE – 85TH PERCENTILE
MOUNTAIN VIEW ROAD							
HACIENDA AVE TO SOUTH CITY LIMITS	35	**35**	38.9	35.3	32-41	85.8	NO CHANGE – 85TH PERCENTILE
PALM DRIVE							
MISSION LAKES BL TO 8TH ST	35	**35**	38.4	35.3	31-40	89.0	NO CHANGE – 85TH PERCENTILE
8TH ST TO PIERSON BL	35	**35**	38.6	35.6	31-40	92.3	NO CHANGE – 85TH PERCENTILE
PIERSON BL TO HACIENDA AVE	35	**35**	39.9	36.5	32-41	88.5	NO CHANGE – 85TH PERCENTILE
HACIENDA AVE TO TWO BUNCH PALMS TR	35	**35**	37.9	35.2	32-41	93.6	NO CHANGE – 85TH PERCENTILE
TWO BUNCH PALMS TR TO CAMINO CAMPANERO	40	**40**	42.2	39.2	36-45	91.8	NO CHANGE – 85TH PERCENTILE
CAMINO CAMPANERO TO CAMINO AVENTURA	45	**45**	46.3	44.3	40-49	95.5	NO CHANGE – 85TH PERCENTILE
CAMINO AVENTURA TO DILLON RD (SB only within City)	55	**55**	56.8	53.0	49-58	76.9	NO CHANGE – 85TH PERCENTILE
DILLON RD TO SCL (SB only within City s./o 18th)	60	**60**	64.7	59.8	55-64	75.6	NO CHANGE – 85TH PERCENTILE

NOTE: RESIDENT DISTRICT- CVC 515 DOES NOT REQUIRE FUTURE SPEED STUDY

STREET LOCATION	EXISTING SPEED LIMIT	RECOMMENDED SPEED LIMIT	85TH PERCENTILE SPEED	AVERAGE SPEED	10 MPH PACE RANGE	PERCENT OF VEHICLES IN PACE	JUSTIFICATION / COMMENTS
PIERSON BOULEVARD							
HWY 62 TO SKYBORNE DR	55 EB	**55**	56.9	51.2	50-59	59.0	NO CHANGE – 85TH PERCENTILE – POST WB
SKYBORNE DR TO INDIAN CANYON DR	55 WB	**55**	55.2	50.1	48-57	76.3	NO CHANGE – 85TH PERCENTILE – POST EB
INDIAN CANYON DR TO LITTLE MORONGO DR	50	**50**	54.0	47.9	42-51	66.4	NO CHANGE – 85TH PERCENTILE
LITTLE MORONGO DR TO ATLANTIC / GOLDEN EAGLE RD	50 / *25	**50**	51.6	46.5	44-53	74.3	NO CHANGE – 85TH PERCENTILE
ATLANTIC / GOLDEN EAGLE TO WEST DR	45 / *25	**45**	46.1	41.8	37-46	79.1	NO CHANGE – 85TH PERCENTILE
WEST DR TO PALM DR	35	**35**	37.1	32.9	29-38	81.8	NO CHANGE – 85TH PERCENTILE
PALM DR TO MIRACLE HILL RD	35	**35**	35.9	32.9	28-37	92.7	NO CHANGE – 85TH PERCENTILE
TWO BUNCH PALMS TRAIL							
LIL MORONGO RD TO WEST DR	35 / 45	**45**	47.9	43.9	41-50	78.1	CONFLICTING SPEEDS RETAIN 45 MPH – 85TH PERCENTILE, REMOVE 35 WB
WEST DR TO PALM DR	40 / 25*	**40**	41.0	36.8	32-41	81.4	NO CHANGE – 85TH PERCENTILE
PALM DR TO MIRACLE HILL RD	35 EB / *25	**35**	39.7	34.7	31-40	80.0	NO CHANGE – 85TH PERCENTILE - POST WB
WEST DRIVE							
MISSION LAKES BL TO PIERSON BL	30 / 25*	**30**	35.6	31.5	28-37	87.0	NO CHANGE – LIMITED SIGHT DISTANCE
PIERSON BL TO TWO BUNCH PALMS TR	35 / 25*	**35**	38.3	35.3	32-41	89.1	NO CHANGE – 85TH PERCENTILE

*25 mph When Children Present
WB = Westbound
NP = Not Posted
EB + Eastbound