2013 CITY-WIDE SPEED ZONE SURVEYS
ENGINEERING AND TRAFFIC SURVEYS

For

CITY OF PALM SPRINGS

October 8, 2013

Civil Number: 22338

Approved by:
David Barakian
City Engineer

Date: 10-8-2013

Signature: Bill E Darnell

Date: 10/9/13

Signature:

Submitted By:

Darnell & Associates, Inc.
2870 Fourth Avenue, Suite A
San Diego, CA 92103

Submitted To:

City of Palm Springs
3200 E. Tahquitz Canyon Way
Palm Springs, CA 92262

D & A Ref. No.: 130103

Darnell & ASSOCIATES, INC.

TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

October 8, 2013

David Barakian
City Engineer
City of Palm Springs
3200 E. Tahquitz Canyon Way,
Palm Springs, CA 92262

D&A No. 130103

Subject 2013 Citywide Speed Surveys

Dear Mr. Barakian,

Darnell & Associates, Inc. (D&A) has completed its Engineering and Traffic Survey of roadways within the City of Palm Springs. The surveys include collection of speeds on roadways, accident, characteristics of roadways, identification of conditions not apparent to motorists and identification of Residence and Business Districts Prima Facia 25 MPH speed limits

This report constitutes an Engineering and Traffic Study of speed limits within the City of Palm Springs. The existing speed limits were reviewed for adequacy in terms of adjacent land use, functional classification, traffic demands, speed surveys along individual roadways and speed limit continuity with neighboring jurisdictions. Traffic and roadside conditions not readily apparent to motorists were also considered. The following reference materials were also used in preparation of the Engineering and Traffic Study:

- California Vehicle Code – California Department of Motor Vehicles, Sacramento;
- California Manual on Uniform Traffic Control Devices (CAMUTCD) Dated January 13, 2012;
- Traffic Manual – State of California, Department of Transportation, Sacramento, California, Chapter 8, Section 803.1 through 803.4; as noted and referred to by the CAMUTCD.
- California Traffic Operations Policy Directive and Procedure for Setting Speed Limits in California issued June 29, 2009.

Darnell & Associates, Inc. was retained by the City of Palm Springs to prepare this report. I Bill E. Darnell do hereby certify that I am a Registered Civil Engineer and Traffic Engineer in the State of California. Darnell & Associates, Inc. has concluded this study for the City of Palm Springs, and this study was prepared under my direction. The contents of this Engineering and Traffic Study are true and accurate to the best of my knowledge.

If you have any questions, please feel free to contact this office.

Sincerely,

Darnell & Associates, Inc.

Bill E. Darnell

Bill E Darnell, P.E.
Firm Principal
RCE 22338

Date Signed: 10/8/2013

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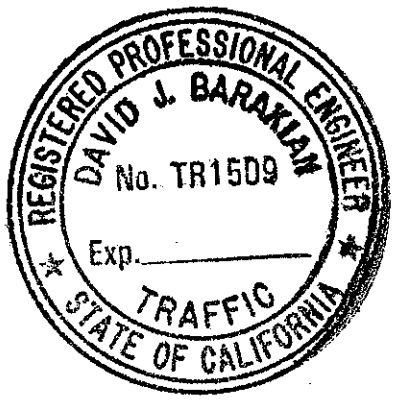
130103 -City of Palm Springs - Citywide Speed Survey-10-2013.doc

I, David Barakian, do hereby certify that I am the City Engineer for the City of Palm Springs; and that this report has been prepared under my supervision and its contents are true and accurate to the best of my knowledge.

David Barakian, P.E.

10/9/13

City Engineer Date



2013 CITY-WIDE SPEED SURVEYS ENGINEERING AND TRAFFIC STUDY

For

CITY OF PALM SPRINGS

Submitted To:

City of Palm Springs
3200 E. Tahquitz Canyon Way,
Palm Springs, CA 92262

Prepared by:

Darnell & Associates, Inc.
2870 Fourth Avenue, Suite A
San Diego, California 92103
619-233-9373

October 8, 2013

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SECTION I - INTRODUCTION

The City of Palm Springs, in conformance with the California Vehicle Code, has requested the following speed survey for selected roadways within the City. Section 40802 of the California Vehicle Code requires that an Engineering and Traffic Survey be conducted every five (5) years unless extended to seven years or ten years (with no significant changes certified). These sections of the California Vehicle Code are included in the attachments. An Engineering and Traffic Survey is needed on all streets where the enforcement of speed limits involves the use of radar or other electronic devices that measure the speed of moving vehicles.

An Engineering and Traffic Survey is defined in Section 627 of the Vehicle Code as a survey which shall include consideration of the following traffic engineering measurements:

1. Actual prevailing speeds as determined by traffic engineering measurements;
2. Accident records; and
3. Highway, traffic and roadside conditions not readily apparent to the driver.

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

It is a common belief that posting of speed limit traffic signs will influence drivers to drive at that speed. However, the facts indicate otherwise. Driver behavioral research conducted in many parts of this country over a span of several decades' shows that the average driver is influenced by the appearance of the highway itself and the prevailing traffic conditions in choosing the speed at which he or she drives. Recognizing this, the California Vehicle Code (CVC) requires that speed limits be established in accordance with appropriate engineering practice and methods.

This report contains sufficient information to document that the conditions of the latest edition of the California Vehicle Code Section 627 have been satisfied and that other conditions not readily apparent to a motorist are properly identified. To legally use radar for speed enforcement, Section 40802(b) of the CVC requires that limits be established per Sections 627 and 22358.5 of the CVC, the limits must be justified by an engineering and traffic survey conducted within seven(7) or ten (10) years as defined by CVC prior to the date of the alleged violation. The latest edition of the CVC has highlighted bicycle and pedestrian safety as part of the traffic and engineering survey, and this aspect was considered.

The speed limits to be established must satisfy the California Manual of Traffic Control Devices (MUTCD) 2012 Edition dated January 13, 2012. The MUTCD has established the standards for establishing speed limits that will be enforced by the use of RADAR. The standards are as follows:

- It shall be established at the nearest 5 mile per hour (mph) increment of the 85th percentile of free-flowing traffic except as follows:

    1. The posted speed may be reduced by 5 mph from the nearest increment of the 85th percentile speed when the Engineering and Traffic Survey (E&TS) documents conditions and justification for the lower speed limit.

2. For cases in which the nearest 85th percentile speed would require a rounding up (ie 33 mph goes to 35 mph), the speed limit may be rounded down (ie 33 mph goes to 30 mph) then if no further reduction is used.

The CAMUTCD 2012 criteria have been used in formulation of the recommended speeds.

According to the City records, the last speed zone surveys were conducted in 2007. The current study will verify, increase or decrease existing speed limits within the City of Palm Springs based on the data and the results of this survey. Table 1 presents the Speed Survey Locations.

At 136 locations on the City's arterial and collector street network, spot speed surveys were taken in conformance with the State law for conducting engineering and traffic surveys for the purpose of establishing prima facie speed limits. The data was collected per the California Manual of Uniform Traffic Control Devices (MUTCD) 2012 Edition. Sections of the MUTCD detailing regulations for conducting the required "Engineering and Traffic Survey" are presented in Appendix A. Also in Appendix A are definitions of terms used in speed zone surveys. Excerpts from the CVC regarding regulations governing speed limits are presented in Appendix B. The actual speed zone surveys were conducted by Pacific Technical Data, Darnell & Associates, Inc. and were supervised and reviewed by Mr. Bill E. Darnell a California registered Traffic Engineer from Darnell & Associates, Inc. who also surveyed and drove the streets.

Table 1 – Speed Survey Locations		
Alejo Road	1	West End to Via Miraleste
	2	Via Miraleste to Avenida Caballeros
	3	Avenida Caballeros to Sunrise Way
	4	Sunrise Way to Farrell Drive
Amado Road	5	Indian Canyon to Avenida Caballeros
	6	Avenida Caballeros to Sunrise Way
	7	Sunrise Way to Farrell Drive
Arenas Road	8	Indian Canyon Drive to Calle Encilia
	9	Calle Encilia to Calle El Segundo
Avenida Caballeros	10	San Rafael Drive to Vista Chino
	11	Vista Chino to Tachevah Drive
	12	Tachevah Drive to Tamarisk
	13	Tamarisk to Alejo Road
	14	Alejo Road to Tahquitz Canyon Way
	15	Tahquitz Canyon Way to Ramon Road
Baristo Road	16	Avenida Caballeros to Sunrise Way
	17	Sunrise Way to Farrell Drive
	18	Farrell Drive to El Cielo Road
Barona Road	19	East Palm Canyon to South End
Belardo Road	20	Ramon Road to Sunny Dunes Road
	21	Sunny Dunes Road to S. Belardo Road
Bogert Trail	22	South Palm Canyon to Palm Canyon Wash
	23	Palm Canyon Wash to South End
Calle El Segundo	24	Alejo Road to Amado Road
	25	Amado Road to Tahquitz Canyon Way
	26	Tahquitz Canyon Way to Ramon Road

Table 1 – Speed Survey Locations (cont.)		
Calle Encilia	27	Alejo Road to Amado Road
	28	Amado Road to Tahquitz Canyon Way
	29	Tahquitz Canyon Way to Arenas Road
	30	Arenas Road to Ramon Road
Camino Real	31	East Palm Canyon to La Verne Way
	32	La Verne Way to Avenida Granada
	33	Avenida Granada to Murray Canyon
Civic Drive	34	Aviation Way to Tahquitz Canyon Drive
	35	Tahquitz Canyon Way to Baristo Road
Crossley Road	36	Ramon Road to 34th
Dillon Road	37	Diablo to Melissa
East Palm Canyon Drive	38	S Palm Canyon Drive to Sunrise Way
	39	Sunrise Way to Farrell Drive
	40	Farrell Drive to Rim Road
	41	Rim Road to Cherokee Way
	42	Cherokee Way to Gene Autry Trail
El Cielo Road	43	Tahquitz Canyon Way to Ramon Road
	44	Ramon Road to Mesquite Avenue
	45	Mesquite Avenue to Escoba Drive
Escoba Drive	46	El Cielo Road to East Palm Canyon Drive
Farrell Drive	47	Racquet Club Drive to Vista Chino
	48	Vista Chino to Tamarisk
	49	Tamarisk to Alejo Road
	50	Alejo Road to Tahquitz Canyon Way
	51	Tahquitz Canyon Way to Ramon Road
	52	Ramon Road to Mesquite Avenue

Table 1 – Speed Survey Locations (cont.)		
Garnet Road	53	Mesquite Avenue to East Palm Canyon Drive
	54	Indian Canyon to West City Limits
Gene Autry Trail	55	I-10 to Vista Chino
Golf Club Drive	56	Avenue 34 to Palm Canyon Wash
	57	Palm Canyon Wash to E. Palm Canyon Drive
N. Indian Canyon Drive	58	18th to I-10
	59	1-10 to Tramview Road
	60	Tramview Road to San Rafael Drive
	61	San Rafael Drive to Racquet Club
	62	Racquet Club Drive to Vista Chino
	63	Vista Chino to Tachevah Drive
	64	Tachevah Drive to Alejo Road
	65	Alejo Road to Amado Road
	66	Amado Road to Andreas Road
	67	Andreas Road to Tahquitz Canyon Way
S. Indian Canyon Drive	68	Tahquitz Canyon Way to Arenas Road
	69	Arenas Road to Ramon Road
La Verne Way	70	East Palm Canyon Drive to Camino Real
	71	Camino Real to Calle Palo Fierro
	72	Calle Palo Fierro to South Palm Canyon Drive
Mesquite Avenue	73	West End to South Palm Canyon Drive
	74	South Palm Canyon Drive to Camino Real
	75	Camino Real to Sunrise Way
	76	Sunrise Way to Farrell Drive
	77	El Cielo Road to Vella Road
	78	Vella Road to Gene Autry Trail
	79	Crossley Road to East City Limits
Dinah Shore Drive	80	Gene Autry Trail to Crossley Road

Table 1 – Speed Survey Locations (cont.)		
Murray Canyon	81	South Palm Canyon Drive to Camino Real
	82	Camino Real to Toledo Avenue
North Palm Canyon Drive	83	Vista Chino to Tachevah Drive
	84	Tachevah Drive to Alejo Road
Paseo Dorotea	85	Ramon Road to Mesquite Avenue
Racquet Club	86	North Palm Canyon Drive to Indian Canyon
	87	Indian Canyon to Avenida Caballeros
	88	Avenida Caballeros to Sunrise Way
	89	Sunrise Way to Farrell Drive
Ramon Road	90	West End to South Palm Canyon Drive
	91	South Palm Canyon Drive to Avenida Caballeros
	92	Avenida Caballeros to Sunrise Way
	93	Sunrise Way to Farrell Drive
	94	Farrell Drive to El Cielo Road
	95	El Cielo Road to Gene Autry Trail
	96	Gene Autry Trail to San Luis Rey Drive
	97	San Luis Rey Drive to East City Limit
San Luis Rey Drive	98	Ramon Road to Mesquite Avenue
San Rafael Drive	99	North Palm Canyon Drive to Virginia Road
	100	Virginia Road to Indian Canyon Drive
	101	Indian Canyon Drive to Avenida Caballeros
	102	Avenida Caballeros to Sunrise Way
South Palm Canyon Drive	103	Ramon Road to Mesquite Avenue
	104	Mesquite Avenue to East Palm Canyon Drive
	105	East Palm Canyon Drive to La Verne Way
	106	La Verne Way to Avenida Granada
	107	Avenida Granada to Bogert Trail

Table 1 – Speed Survey Locations (cont.)		
Sunny Dunes Road	108	Belardo Road to South Palm Canyon Drive
	109	South Palm Canyon Drive to Calle Palo Fierro
	110	Calle Palo Fierro to Sunrise Way
	111	Compadre Way to El Cielo Road
	112	El Cielo Road to Paseo Dorotea
	113	Paseo Dorotea to Gene Autry Trail
	114	Gene Autry Trail to Crossley Road
Sunrise Way	115	North End to Racquet Club Drive
	116	Racquet Club Drive to Vista Chino
	117	Vista Chino to Tachevah Drive
	118	Tachevah Drive to Alejo Road
	119	Alejo Road to Tahquitz Canyon Way
	120	Tahquitz Canyon Way to Ramon Road
	121	Ramon Road to Mesquite Avenue
	122	Mesquite Avenue to East Palm Canyon Drive
Tachevah Drive	123	Indian Canyon Drive to Via Miraleste
	124	Via Miraleste to Avenida Caballeros
	125	Avenida Caballeros to Sunrise Way
	126	Sunrise Way to Farrell Drive
Tahquitz Canyon Way	127	Indian Canyon Drive to Calle El Segundo
	128	Calle El Segundo to Avenida Caballeros
	129	Avenida Caballeros to Sunrise Way
	130	Sunrise Way to Farrell Drive
	131	Farrell Drive to El Cielo Road
Tipton Road	132	Hwy 111 to Wendy Road
	133	Wendy Road to I-10
Toledo Avenue	134	La Verne Way to Mesquite Avenue
Veila Road	135	Ramon Road to Mesquite Avenue
Vista Chino	136	Gene Autry Trail to East City Limits

SECTION II - STUDY METHODOLOGY

The procedures used for an Engineering and Traffic Survey is based on the provisions of Section 627 of the California Vehicle Code and the California MUTCD, January 2012 Edition. These documents represent a substantial change from the previous survey conducted in 2007, although the basic survey still includes the following:

- Measurement of Actual Prevailing Speeds;
- Accident Records; and
- Traffic and Roadside Conditions.

The following Sections of this report will address Survey Analysis, Recommendations and the Certification Sheets for each roadway.

To determine the recommended speed limits to be posted this Engineering and Traffic Survey (E&TS) Darnell and Associates, Inc. has also collected 24 hour machine counts, analyzed accident history for 2010 and 2012 and conducted speed surveys on each of the roadway segments. Spot Speed Surveys utilizing a calibrated radar gun, were collected at 136 street segments. A minimum of 100 observations in each direction during non-peak times (where possible) were recorded on all the arterial and secondary arterial streets. The survey data was used to calculate statistical information such as the 85th percentile speed, 10 mile per hour pace speed, median speed and other pertinent data for the analysis.

Accident data was tabulated from the City's Accident Records (Crossroads) for the period from January 1, 2011 thru December 31, 2012 (2 year) for each roadway segment. The accident rate was calculated and considered in recommending the speed limit. The City's crossroads accident program was utilized to calculate the accident rate.

The accident data was analyzed and the accident rate was calculated for each roadway segment. The accident analysis included the identification of speed related accidents. Table 2 presents the Speed Zone and Accident Survey Analysis. Also presented on Table 3 are the recommended speeds for each segment. The table included the recommended comments for the justification of the recommended speeds. The results of the speed survey, accident analysis was then prepared for each of the 136 segment surveys. The results are summarized on Table 3 on summarizing the characteristics for each roadway segment, including speed surveys 85th percentile speeds, 10 mile per hour pace and the existing posted speed.

City of Palm Springs

Table 2 - 2013 Speed Zone Survey - Accident Survey Analysis

Street	No.	Location	Distance (feet)	Distance (mi)	ADT 2013	Accidents 4 yrs Total	Accident Rate	Expected Acc. Rate
Alejo Road	1	West End to Indian Canyon Drive	1,584	0.30	3,980	0	0.00	3.55
	2	Indian Canyon Drive to Avenida Caballeros	3,010	0.57	5,439	0	0.00	2.3
	3	Avenida Caballeros to Sunrise Way	2,640	0.50	5,009	0	0.00	2.3
	4	Sunrise Way to Farrell Drive	3,010	0.57	3,965	0	0.00	2.3
Amado Road	5	Indian Canyon to Avenida Caballeros	2,640	0.50	3,396	1	0.81	3.55
	6	Avenida Caballeros to Sunrise Way	2,640	0.50	3,319	0	0.00	3.55
	7	Sunrise Way to Farrell Drive	3,062	0.58	1,741	0	0.00	3.55
Arenas Road	8	Indian Canyon Drive to Calle Encilla	580	0.11	2,241	0	0.00	2.3
	9	Calle Encilla to Calle El Segundo	586	0.11	1,469	1	8.47	2.3
Avenida Caballeros	10	San Rafael Drive to Vista Chino	5,333	1.01	3,408	1	0.40	3.55
	11	Vista Chino to Tachevah Drive	2,640	0.50	4,281	1	0.64	3.55
	12	Tachevah Driveto Tamarisk	1,320	0.25	4,122	1	1.33	3.55
	13	Tamarisk to Alejo Road	1,373	0.26	4,178	1	1.26	3.55
	14	Alejo Road to Tahquitz Canyon Way	2,587	0.49	4,331	1	0.65	3.55
	15	Tahquitz Canyon Way to Ramon Road	2,587	0.49	4,202	0	0.00	3.55
Baristo Road	16	Avenida Caballeros to Sunrise Way	2,640	0.50	2,450	0	0.00	3.55
	17	Sunrise Way to Farrell Drive	3,062	0.58	5,103	0	0.00	3.55
	18	Farrell Drive to El Cielo Road	2,270	0.43	4,777	0	0.00	3.55
Barona Road	19	East Palm Canyon to South End	2,693	0.51	748	0	0.00	1.98
Belardo Road	20	Ramon Road to Sunny Dunes Road	1,328	0.25	2,593	1	2.10	1.98
	21	Sunny Dunes Road to S. Belardo Road	2,357	0.45	1,839	0	0.00	1.98
Bogert Trail	22	South Palm Canyon to Palm Canyon Wash	4,963	0.94	2,682	1	0.54	3.55
	23	Palm Canyon Wash to South End	4,910	0.93	1,701	1	0.87	3.55
Calle El Segundo	24	Alejo Road to Amado Road	1,320	0.25	2,324	1	2.36	3.55
	25	Amado Road to Tahquitz Canyon Way	1,320	0.25	3,919	1	1.40	3.55
	26	Tahquitz Canyon Way to Ramon Road	2,587	0.49	2,843	0	0.00	3.55
Calle Encilia	27	Alejo Road to Amado Raod	1,320	0.25	3,571	0	0.00	3.55
	28	Amado Road to Tahquitz Canyon Way	1,373	0.26	5,830	0	0.00	3.55
	29	Tahquitz Canyon Way to Arenas Road	634	0.12	3,203	0	0.00	3.55
	30	Arenas Road to Ramon Road	1,954	0.37	2,842	0	0.00	3.55
Camino Real	31	East Palm Canyon to La Verne Way	2,798	0.53	1,893	0	0.00	3.55
	32	La Verne Way to Avenida Granada	2,957	0.56	639	0	0.00	3.55
	33	Avenida Granada to Murray Canyon	2,165	0.41	376	0	0.00	3.55
Civic Drive	34	Avation Way to Tahquitz Canyon Drive	1,485	0.28	1,232	0	0.00	3.55
	35	Tahquitz Canyon Way to Baristo Road	1,328	0.25	966	0	0.00	3.55
Crossley Road	36	Ramon Road to 34th	5,333	1.01	8,355	2	0.32	3.55
Dillon Road	37	Diablo to Melissa	3,168	0.60	9,085	0	0.00	1.98
East Palm Canyon	38	S Palm Canyon Drive to Sunrise Way	5,491	1.04	19,836	0	0.00	2.3
	39	Sunrise Way to Farrell Drive	2,696	0.51	30,033	0	0.00	2.3
	40	Farrell Drive to Rim Road	3,383	0.64	15,854	0	0.00	2.3
	41	Rim Road to Cherokee Way	2,714	0.51	24,682	0	0.00	2.3
	42	Cherokee Way to Gene Autry Trail	2,018	0.38	29,242	0	0.00	2.3
El Cielo Road	43	Tahquitz Canyon Way to Ramon Road	2,640	0.50	11,743	0	0.00	2.3
	44	Ramon Road to Mesquite Avenue	1,795	0.34	7,873	0	0.00	2.3
	45	Mesquite Aveue to Escoba Drive	3,485	0.66	4,931	0	0.00	2.3
Escoba Drive	46	El Cielo Road to East Palm Canyon Drive	1,267	0.24	4,848	0	0.00	3.55
Farrell Drive	47	Racquet Club Drive to Vista Chino	2,534	0.48	9,173	1	0.31	3.55
	48	Vista Chino to Tamarisk	4,118	0.78	10,318	1	0.17	3.55
	49	Tamarisk to Alejo Road	1,320	0.25	12,676	1	0.43	3.55
	50	Alejo Road to Tahquitz Canyon Way	2,640	0.50	13,337	3	0.62	3.55
	51	Tahquitz Canyon Way to Ramon Road	2,640	0.50	10,030	2	0.55	3.55
	52	Ramon Road to Mesquite Avenue	2,640	0.50	7,533	2	0.73	3.55
	53	Mesquite Ave to East Palm Canyon Drive	2,798	0.53	6,331	1	0.41	3.55
Garnet Road	54	Indian Canyon to West City Limits	4,435	0.84	5,416	0	0.00	1.98
Gene Autry Trail	55	I-10 to Vista Chino	12,725	2.41	29,983	2	0.04	2.3
Golf Club Drive	56	Avenue 34 to Palm Canyon Wash	792	0.15	5,232	2	3.49	2.3
	57	Palm Cyn Wash to E. Palm Canyon Dr.	3,749	0.71	6,206	0	0.00	2.3
Indian Avenue	58	18th to I-10	4,963	0.94	15,472	1	0.09	1.98
Indian Canyon	59	I-10 to Tramview Road	12,514	2.37	11,517	0	0.00	1.98
	60	Tramview Road to San Rafael Drive	2,640	0.50	12,746	0	0.00	2.3
	61	San Rafael Drive to Racquet Club	2,693	0.51	15,979	0	0.00	2.3
	62	Racquet Club to Vista Chino	2,640	0.50	16,432	0	0.00	2.3
	63	Vista Chino to Tachevah Drive	2,640	0.50	18,683	5	0.73	2.3
	64	Tachevah Drive to Alejo Road	2,640	0.50	16,887	0	0.00	2.3
	65	Alejo Road to Amado Road	1,320	0.25	9,921	3	1.66	2.3
	66	Amado Road to Andreas Road	686	0.13	12,067	1	0.87	2.3
	67	Andreas Road to Tahquitz Canyon Way	634	0.12	11,690	1	0.98	2.3
	68	Tahquitz Canyon Way to Arenas Road	634	0.12	11,120	1	1.03	2.3
	69	Arenas Road to Ramon Road	1,954	0.37	13,667	0	0.00	2.3
La Verne Way	70	East Palm Canyon Drive to Camino Real	3,485	0.66	5,015	1	0.41	3.55
	71	Camino Real to Calle Palo Fierro	1,214	0.23	4,569	0	0.00	3.55
	72	Calle Palo Fierro to South Palm Canyon Drive	1,320	0.25	3,500	0	0.00	3.55

City of Palm Springs

Table 2 - 2013 Speed Zone Survey - Accident Survey Analysis (cont.)

Street	No.	Location	Distance (feet)	Distance (mi)	ADT 2013	Accidents 4 yrs Total	Accident Rate	Expected Acc. Rate
Mesquite Avenue	73	West End to South Palm Canyon Drive	1,214	0.23	1,394	0	0.00	3.55
	74	South Palm Canyon Drive to Camino Real	1,954	0.37	1,740	0	0.00	3.55
	75	Camino Real to Sunrise Way	3,326	0.63	3,428	0	0.00	3.55
	76	Sunrise Way to Farrell Drive	3,115	0.59	3,365	1	0.69	3.55
	77	El Cielo Road to Vella Road	4,277	0.81	8,416	1	0.20	3.55
	78	Vella Road to Gene Autry Trail	1,373	0.26	8,732	0	0.00	3.55
	79	Crossley Road to East City Limits	5,065	0.96	20,618	0	0.00	3.55
Dinah Shore Drive	80	Gene Autry Trail to Crossley Road	2,605	0.49	21,188	8	1.06	3.55
Murray Canyon	81	South Palm Canyon Drive to Camino Real	2,323	0.44	3,503	0	0.00	3.55
	82	Camino Real to Toledo Avenue	3,379	0.64	3,260	1	0.66	3.55
North Palm Canyon Drive	83	Vista Chino to Tachevah Drive	2,640	0.50	15,524	0	0.00	2.3
	84	Tachevah Drive to Alejo Road	2,640	0.50	15,734	0	0.00	2.3
Paseo Dorotea	85	Ramon Road to Mesquite Avenue	2,640	0.50	593	0	0.00	1.98
Racquet Club	86	N. Palm Canyon Dr. to Indian Canyon	1,795	0.34	4,609	0	0.00	3.55
	87	Indian Canyon to Avenida Caballeros	2,640	0.50	7,046	1	0.39	3.55
	88	Avenida Caballeros to Sunrise Way	2,693	0.51	6,996	1	0.38	3.55
	89	Sunrise Way to Farrell Drive	2,482	0.47	8,976	0	0.00	3.55
Ramon Road	90	West End to South Palm Canyon Drive	3,115	0.59	8,209	0	0.00	2.3
	91	South Palm Canyon Drive to Avenida Caballeros	2,640	0.50	13,039	1	0.21	2.3
	92	Avenida Caballeros to Sunrise Way	2,640	0.50	19,174	1	0.14	2.3
	93	Sunrise Way to Farrell Drive	3,115	0.59	22,898	2	0.20	2.3
	94	Farrell Drive to El Cielo Raod	2,218	0.42	31,758	3	0.31	2.3
	95	El Cielo Road to Gene Autry Trail	5,280	1.00	39,169	0	0.00	2.3
	96	Gene Autry Trail to San Luis Rey Drive	1,320	0.25	35,273	0	0.00	2.3
	97	San Luis Rey Drive to East City Limit	1,320	0.25	35,273	0	0.00	2.3
San Luis Rey Drive	98	Ramon Road to Mesquite Avenue	2,693	0.51	3,921	0	0.00	3.55
San Rafael Drive	99	N. Palm Canyon Drive to Virginia Rd.	2,122	0.40	3,670	0	0.00	1.98
	100	Virginia Road to Indian Canyon Drive	1,653	0.31	3,627	0	0.00	1.98
	101	Indian Cyn Dr. to Avenida Caballeros	2,649	0.50	6,363	0	0.00	1.98
	102	Avenida Caballeros to Sunrise Way	2,636	0.50	6,577	0	0.00	1.98
South Palm Canyon Drive	103	Ramon Road to Mesquite Avenue	2,904	0.55	10,969	0	0.00	2.3
	104	Mesquite Avenue to E. Palm Canyon Dr.	2,904	0.55	21,039	0	0.00	2.3
	105	East Palm Canyon Drive to La Verne Way	7,234	1.37	4,914	1	0.20	2.3
	106	La Verne Way to Avenida Granada	2,640	0.50	4,927	0	0.00	2.3
	107	Avenida Granada to Bogert Trail	3,960	0.75	3,870	0	0.00	2.3
Sunny Dunes Road	108	Belardo Road to South Palm Cyn Drive	739	0.14	1,794	0	0.00	1.98
	109	S. Palm Canyon Drive to Calle Palo Fierro	950	0.18	2,570	0	0.00	1.98
	110	Calle Palo Fierro to Sunrise Way	3,854	0.73	2,468	0	0.00	1.98
	111	Compadre Way to El Cielo Road	1,320	0.25	421	0	0.00	1.98
	112	El Cielo Road to Paseo Dorotea	2,693	0.51	1,093	0	0.00	1.98
	113	Paseo Dorotea to Gene Autry Trail	2,693	0.51	1,848	0	0.00	1.98
	114	Gene Autry Trail to Crossley Road	2,640	0.50	1,112	0	0.00	1.98
Sunrise Way	115	North End to Racquet Club Drive	1,800	0.34	9,676	0	0.00	2.3
	116	Racquet Club Drive to Vista Chino	2,746	0.52	9,992	0	0.00	2.3
	117	Vista Chino to Tachevah Drive	2,587	0.49	12,141	0	0.00	2.3
	118	Tachevah Drive to Alejo Road	2,690	0.51	20,179	0	0.00	2.3
	119	Alejo Road to Tahquitz Canyon Way	2,587	0.49	21,030	0	0.00	2.3
	120	Tahquitz Canyon Way to Ramon Road	2,640	0.50	20,910	0	0.00	2.3
	121	Ramon Road to Mesquite Avenue	2,640	0.50	18,143	1	0.15	2.3
	122	Mesquite Avenue to E. Palm Canyon Dr.	2,640	0.50	15,718	0	0.00	2.3
Tachevah Drive	123	Indian Canyon Drive to Via Miraleste	2,640	0.50	5,260	0	0.00	3.55
	124	Via Miraleste to Avenida Caballeros	1,320	0.25	6,501	0	0.00	3.55
	125	Avenida Caballeros to Sunrise Way	1,320	0.25	4,604	0	0.00	3.55
	126	Sunrise Way to Farrell Drive	2,693	0.51	2,093	0	0.00	3.55
Tahquitz Canyon Way	127	Indian Canyon Drive to Calle El Segundo	2,640	0.50	10,503	0	0.00	2.3
	128	Calle El Segundo to Avenida Caballeros	1,162	0.22	10,551	1	0.59	2.3
	129	Avenida Caballeros to Sunrise Way	1,478	0.28	10,577	1	0.46	2.3
	130	Sunrise Way to Farrell Drive	2,640	0.50	10,554	1	0.26	2.3
	131	Farrell Drive to El Cielo Road	3,062	0.58	10,642	1	0.22	2.3
Tipton Road	132	Hwy 111 to Wendy Road	6,547	1.24	3,434	0	0.00	1.98
	133	Wendy Road to I-10	6,178	1.17	3,446	0	0.00	1.98
Toledo Avenue	134	La Verne Way to Mesquite Avenue	4,752	0.90	2,982	0	0.00	1.98
Vella Road	135	Ramon Road to Mesquite Avenue	2,640	0.50	1,477	0	0.00	1.98
Vista Chino	136	Gene Autry Trail to East City Limits	1,478	0.28	21,450	2	0.46	2.3

Table 3 - Summary of 2013 Segment Spot Speed Survey

Street	No.	No. and Location	Dir.	Date	10-Mile Pace (mph)	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	2013 Recommended Speeds	Comments
Alejo Road	1	West End to Via Miraleste	E/W	4/17/2013	24-33	30	36	35	35	No Change
	2	Via Miraleste to Avenida Caballeros	E/W	4/17/2013	30-39	35	39	35	35	No Change *
	3	Avenida Caballeros to Sunrise Way	E/W	4/17/2013	38-47	42	47	40	40	No Change Continuity of Speeds and low accident rate.
	4	Sunrise Way to Farrell Drive	E/W	4/17/2013	40-49	44	48	45	45	No Change *
Amado Road	5	Indian Canyon to Avenida Caballeros	E/W	4/17/2013	33-42	37	40	35	40	Increase 85th %tile and low accident rate
	6	Avenida Caballeros to Sunrise Way	E/W	4/17/2013	37-46	41	45	40	40	No Change Continuity of Speeds
	7	Sunrise Way to Farrell Drive	E/W	4/17/2013	36-45	40	44	40	40	No Change *
Arenas Road	8	Indian Canyon Drive to Calle Encila	E/W	4/30/2013	20-29	25	28	25	25	No Change *
	9	Calle Encila to Calle El Segundo	E/W	4/30/2013	19-28	24	27	25	25	No Change
Avenida Caballeros	10	San Rafael Drive to Vista Chino	N/S	4/18/2013	34-43	9	43	40	40	No Change *
	11	Vista Chino to Tachevah Drive	N/S	4/18/2013	33-42	37	43	40	40	No Change *
	12	Tachevah Driveto Tamarisk	N/S	4/18/2013	30-39	36	39	35	35	No Change *
	13	Tamarisk to Alejo Road	N/S	4/18/2013	30-39	34	38	35	35	No Change *
	14	Alejo Road to Tahquitz Canyon Way	N/S	4/18/2013	29-38	35	38	35	35	No Change *
	15	Tahquitz Canyon Way to Ramon Road	N/S	4/18/2013	32-41	36	39	35	35	No Change *
Baristo Road	16	Avenida Caballeros to Sunrise Way	E/W	4/30/2013	34-43	39	43	40	40	No Change *
	17	Sunrise Way to Farrell Drive	E/W	4/30/2013	36-45	40	43	40	40	No Change *
	18	Farrell Drive to El Cielo Road	E/W	4/30/2013	33-42	38	44	40	40	No Change *
Barona Road	19	East Palm Canyon to South End	N/S	4/25/2013	24-33	29	33	25	30	Increase 85th %tile and low accident rate
Belardo Road	20	Ramon Road to Sunny Dunes Road	N/S	4/16/2013	31-40	36	40	35	40	Increase 85th %tile and low accident rate
	21	Sunny Dunes Road to S. Belardo Road	N/S	4/16/2013	33-42	38	42	35	40	Increase 85th %tile and low accident rate
Bogert Trail	22	South Palm Canyon to Palm Canyon Wash	E/W	4/17/2013	31-40	35	39	30	30	No Change Numerous driveways and low accident rates.
	23	Palm Canyon Wash to South End	N/S	4/17/2013	32-41	38	41	35	35	No Change
Calle El Segundo	24	Alejo Road to Amado Road	N/S	8/21/2013	30-39	35	39	35	35	No Change
	25	Amado Road to Tahquitz Canyon Way	N/S	5/2/2013	29/38	34	37	35	35	No Change
	26	Tahquitz Canyon Way to Ramon Road	N/S	8/22/2013	30-39	35	39	35	35	No Change
Calle Encilia	27	Alejo Road to Amado Raod	N/S	5/2/2013	26-35	31	37	35	35	No Change *
	28	Amado Road to Tahquitz Canyon Way	N/S	5/2/2013	25-34	29	32	30	30	No Change *
	29	Tahquitz Canyon Way to Arenas Road	N/S	5/2/2013	22-31	27	33	30	30	No Change *
	30	Arenas Road to Ramon Road	N/S	5/2/2013	31-40	36	40	35	35	No Change
Camino Real	31	East Palm Canyon to La Verne Way	N/S	4/17/2013	32-41	37	40	35	35	No Change Continuity of Speeds and low accident rate.
	32	La Verne Way to Avenida Granada	N/S	4/17/2013	28-37	32	36	30	35	Increase 85th %tile and low accident rate. *
	33	Avenida Granada to Murray Canyon	N/S	4/17/2013	27-36	32	36	30	35	Increase 85th %tile and low accident rate. *
Civic Drive	34	Avation Way to Tahquitz Canyon Drive	N/S	4/30/2013	22-31	26	30	25	30	Increase 85th %tile and low accident rate. *
	35	Tahquitz Canyon Way to Baristo Road	N/S	4/30/2013	22-31	26	30	25	30	Increase 85th %tile and low accident rate. *
Crossley Road	36	Ramon Road to 34th	N/S	5/1/2013	41-50	45	49	45	45	No Change *
Dillon Road	37	Diablo to Melissa	E/W	8/21/2013	41-50	46	50	55	50	Decrease 85th %tile and low accident rate.
East Palm Canyon Drive	38	S Palm Canyon Drive to Sunrise Way	E/W	8/21/2013	41-50	45	49	45	45	No Change *
	39	Sunrise Way to Farrell Drive	E/W	8/22/2013	39-48	44	49	45	45	No Change *
	40	Farrell Drive to Rim Road	E/W	8/22/2013	44-53	49	53	50	50	No Change *
	41	Rim Road to Cherokee Way	E/W	8/22/2013	45-54	50	53	50	50	No Change *
	42	Cherokee Way to Gene Autry Trail	E/W	4/25/2013	45-54	50	54	50	50	No Change *
El Cielo Road	43	Tahquitz Canyon Way to Ramon Road	N/S	4/25/2013	41-50	44	49	45	45	No Change *
	44	Ramon Road to Mesquite Avenue	N/S	4/25/2013	39-48	43	47	45	45	No Change
	45	Mesquite Aveue to Escoba Drive	N/S	4/25/2013	38-47	44	47	45	45	No Change

Table 3 - Summary of 2013 Segment Spot Speed Survey

Street	No.	No. and Location	Dir.	Date	10-Mile Pace (mph)	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	2013 Recommended Speeds	Comments
Escoba Drive	46	El Cielo Road to East Palm Canyon Drive	E/W	4/25/2013	39-48	45	48	45	45	No Change
Farrell Drive	47	Racquet Club Drive to Vista Chino	N/S	4/11/2013	38-47	43	47	45	45	No Change
	48	Vista Chino to Tamarisk	N/S	8/22/2013	41-50	45	49	45	45	No Change *
	49	Tamarisk to Alejo Road	N/S	4/11/2013	39-48	43	49	45	45	No Change *
	50	Alejo Road to Tahquitz Canyon Way	N/S	4/11/2013	38-47	43	48	45	45	No Change *
	51	Tahquitz Canyon Way to Ramon Road	N/S	4/11/2013	42-51	45	49	45	45	No Change *
	52	Ramon Road to Mesquite Avenue	N/S	4/11/2013	43-52	47	51	45	45	No Change *
	53	Mesquite Avenue to East Palm Canyon Drive	N/S	4/21/2013	40-49	44	49	45	45	No Change *
Garnet Avenue	54	Indian Canyon to West City Limits	E/W	4/23/2013	23-33	27	31	25	30	Increase 85th %tile and low accident rate.
Gene Autry Trail	55	I-10 to Vista Chino	N/S	4/24/2013	53-62	57	64	55	55	No Change (Narrow painted median, uncontrolled opposing traffic)
Golf Club Drive	56	Avenue 34 to Palm Canyon Wash	N/S	4/24/2013	23-33	36	39	35	35	No Change
	57	Palm Canyon Wash to E. Palm Canyon Drive	N/S	4/24/2013	34-43	38	43	35	35	No Change Continuity of Speeds
N. Indian Canyon Drive	58	18th to I-10	N/S	4/24/2013	49-58	53	59	55	55	No Change *
	59	I-10 to Tramview Road	N/S	8/21/2013	51-60	56	59	55	55	No Change *
	60	Tramview Road to San Rafael Drive	N/S	4/9/2013	42-51	46	51	45	50	Increase 85th %tile and low accident rate.
	61	San Rafael Drive to Racquet Club	N/S	4/9/2013	42-51	47	51	45	50	Increase 85th %tile and low accident rate.
	62	Racquet Club Drive to Vista Chino	N/S	4/9/2013	43-52	47	52	45	45	No Change Continuity of Speeds.
	63	Vista Chino to Tachevah Drive	N/S	4/9/2013	38-47	42	47	40	45	Increase 85th %tile and low accident rate.
	64	Tachevah Drive to Alejo Road	N/S	4/9/2013	35-44	40	45	40	40	No Change Decrease 85th %tile Speed Approaching Central Business District
	65	Alejo Road to Amado Road	N/S	4/9/2013	29-38	33	39	30	30	No Change Central Business District
	66	Amado Road to Andreas Road	N/S	4/9/2013	27-36	32	37	30	30	No Change Central Business District
	67	Andreas Road to Tahquitz Canyon Way	N/S	8/22/2013	30-39	35	39	30	30	No Change Central Business District
S. Indian Canyon Drive	68	Tahquitz Canyon Way to Arenas Road	N/S	4/9/2013	28-37	33	38	30	30	No Change Central Business District
	69	Arenas Road to Ramon Road	E/W	4/9/2013	30-39	34	39	30	30	No Change Central Business District
La Verne Way	70	East Palm Canyon Drive to Camino Real	E/W	8/21/2013	35-44	40	44	40	40	No Change *
	71	Camino Real to Calle Palo Fierro	E/W	4/17/2013	34-43	39	43	40	40	No Change *
	72	Calle Palo Fierro to South Palm Canyon Dr.	E/W	4/17/2013	35-44	40	44	40	40	No Change *
Mesquite Avenue	73	West End to South Palm Canyon Drive	E/W	8/21/2013	25-34	29	33	30	30	No Change *
	74	South Palm Canyon Drive to Camino Real	E/W	8/22/2013	27-36	3034	35	35	30	No Change *
	75	Camino Real to Sunrise Way	E/W	8/22/2013	32-41	36	39	35	35	No Change *
	76	Sunrise Way to Farrell Drive	E/W	8/21/2013	36-45	40	44	40	40	No Change *
	77	El Cielo Road to Vella Road	E/W	5/2/2013	31-40	35	38	35	35	No Change
	78	Vella Road to Gene Autry Trail	E/W	5/2/2013	33-42	39	43	35	40	Increase 85th %tile and low accident rate.
	79	Crossley Road to East City Limits	N/S	8/22/2013	46-55	50	54	50	50	No Change
Dinah Shore Drive	80	Gene Autry Trail to Crossley Road	E/W	5/1/2013	40-49	44	48	45	45	No Change *
Murray Canyon	81	South Palm Canyon Drive to Camino Real	E/W	4/24/2013	40-49	45	48	50	50	No Change
	82	Camino Real to Toledo Avenue	E/W	4/24/2013	42-51	46	50	50	50	No Change
North Palm Canyon Drive	83	Vista Chino to Tachevah Drive	N/S	4/16/2013	38-47	43	48	40	40	No Change Gradual Down Zoning from SR-111 to Match zones entering City and low accident rate.
	84	Tachevah Drive to Alejo Road	N/S	4/16/2013	33-42	37	42	35	35	No Change Approaching Central Business District and low accident rate.
Paseo Dorotea	85	Ramon Road to Mesquite Avenue	N/S	5/1/2013	26-35	31	34	25	30	Increase 85th %tile and low accident rate. *
Racquet Club	86	North Palm Canyon Drive to Indian Canyon	E/W	4/9/2013	40-49	43	48	45	45	No Change *
	87	Indian Canyon to Avenida Caballeros	E/W	4/9/2013	40-49	44	48	45	45	No Change *
	88	Avenida Caballeros to Sunrise Way	E/W	4/9/2013	40-49	45	50	45	45	No Change Continuity of Speeds
	89	Sunrise Way to Farrell Drive	E/W	5/1/2013	40-49	44	49	45	45	No Change *
	90	West End to South Palm Canyon Drive	E/W	4/11/2013	25-34	29	32	30	30	No Change
	91	South Palm Canyon Drive to Avenida Caballeros	E/W	4/11/2013	39-48	43	48	40	45	Increase 85th %tile and low accident rate.

Table 3 - Summary of 2013 Segment Spot Speed Survey

Street	No.	No. and Location	Dir.	Date	10-Mile Pace (mph)	50th % Tile (mph)	85th % Tile (mph)	Posted Speed Limit (mph)	2013 Recommended Speeds	Comments
Ramon Road	92	Avenida Caballeros to Sunrise Way	E/W	4/11/2013	40-49	44	48	40	45	Increase 85th %tile and low accident rate.
	93	Sunrise Way to Farrell Drive	E/W	4/11/2013	39-48	44	49	40	45	Increase 85th %tile and low accident rate.
	94	Farrell Drive to El Cielo Road	E/W	4/11/2013	37-46	42	47	40	45	Increase 85th %tile and low accident rate.
	95	El Cielo Road to Gene Autry Trail	E/W	4/11/2013	42/51	45	48	45	45	No Change Low accident rate.
	96	Gene Autry Trail to San Luis Rey Drive	E/W	4/11/2013	38-47	42	47	40	45	Increase 85th %tile and low accident rate.
	97	San Luis Rey Drive to East City Limit	EASTBOUND	4/11/2013	39-48	42	48	40	45	Increase 85th %tile and low accident rate.
San Luis Rey Drive	98	Ramon Road to Mesquite Avenue	N/S	5/1/2013	30-39	34	37	30	35	Increase 85th %tile and low accident rate.
San Rafael Drive	99	North Palm Canyon Drive to Virginia Road	E/W	4/9/2013	42-21	47	51	50	50	No Change *
	100	Virginia Road to Indian Canyon Drive	E/W	4/9/2013	41-50	46	50	50	50	No Change *
	101	Indian Canyon Drive to Avenida Caballeros	E/W	4/9/2013	43-52	47	51	50	50	No Change *
	102	Avenida Caballeros to Sunrise Way	E/W	4/9/2013	45-54	50	54	50	50	No Change *
South Palm Canyon Drive	103	Ramon Road to Mesquite Avenue	N/S	4/16/2013	36-45	40	44	40	40	No Change *
	104	Mesquite Avenue to East Palm Canyon Drive	N/S	8/21/2013	36-45	40	44	40	40	No Change *
	105	East Palm Canyon Drive to La Verne Way	N/S	4/16/2013	38-47	43	47	40	40	No Change Continuity of Speeds and low accident rates.
	106	La Verne Way to Avenida Granada	N/S	4/16/2013	37-46	41	45	40	40	No Change Continuity of Speeds Numerous Driveways
	107	Avenida Granada to Bogert Trail	N/S	8/22/2013	39-48	43	47	40	40	No Change Continuity of Speeds Numerous Driveways and low accident rates.
Sunny Dunes Road	108	Belardo Road to South Palm Canyon Drive	E/W	4/16/2013	28-37	34	37	35	35	No Change
	109	South Palm Canyon Drive to Calle Palo Fierro	E/W	8/21/2013	31-40	35	39	35	35	No Change
	110	Calle Palo Fierro to Sunrise Way	E/W	4/16/2013	32-41	37	41	35	35	No Change Continuity of Speeds
	111	Compadre Way to El Cielo Road	E/W	4/16/2013	28-37	33	36	35	35	No Change
	112	El Cielo Road to Paseo Dorotea	E/W	4/16/2013	25-34	30	33	30	30	No Change *
	113	Paseo Dorotea to Gene Autry Trail	E/W	4/16/2013	27-36	31	35	30	35	Increase 85th %tile and low accident rate.
	114	Gene Autry Trail to Crossley Road	E/W	4/16/2013	34-43	39	42	40	40	No Change
Sunrise Way	115	North End to Racquet Club Drive	N/S	4/18/2013	40-49	45	49	40	45	Increase 85th %tile and low accident rate.
	116	Racquet Club Drive to Vista Chino	N/S	4/18/2013	38-48	43	49	45	45	No Change
	117	Vista Chino to Tachevah Drive	N/S	4/18/2013	41-50	45	50	45	45	No Change (Continuous Speed)
	118	Tachevah Drive to Alejo Road	N/S	4/18/2013	41-50	44	49	40	45	Increase 85th %tile and low accident rate.
	119	Alejo Road to Tahquitz Canyon Way	N/S	8/22/2013	36-45	41	44	40	40	No Change *
	120	Tahquitz Canyon Way to Ramon Road	N/S	8/21/2013	31-40	34	39	35	35	No Change *
	121	Ramon Road to Mesquite Avenue	N/S	4/18/2013	35-44	40	43	40	40	No Change *
	122	Mesquite Avenue to East Palm Canyon Drive	N/S	4/18/2013	38-47	44	47	45	45	No Change
Tachevah Drive	123	Indian Canyon Drive to Via Miraleste	E/W	4/23/2013	24-33	27	32	25	30	Increase 85th %tile and low accident rate.
	124	Via Miraleste to Avenida Caballeros	E/W	4/23/2013	27-36	32	36	25	30	Increase 85th %tile and low accident rate.
	125	Avenida Caballeros to Sunrise Way	E/W	4/30/2013	30-39	34	40	45	40	Decrease 85th %tile and low accident rate.
	126	Sunrise Way to Farrell Drive	E/W	4/23/2013	39-48	45	46	45	45	No Change
Tahquitz Canyon Way	127	Indian Canyon Drive to Calle El Segundo	E/W	8/21/2013	30-39	35	39	35	35	No Change *
	128	Calle El Segundo to Avenida Caballeros	E/W	8/22/2013	35-44	39	43	40	40	No Change *
	129	Avenida Caballeros to Sunrise Way	E/W	4/30/2013	38-47	43	47	40	40	No Change Conintuity of Speeds and low accident rate.
	130	Sunrise Way to Farrell Drive	E/W	4/30/2013	39-48	42	45	40	40	No Change Continuity of Speeds and low accident rate.
	131	Farrell Drive to El Cielo Road	E/W	4/30/2013	37-46	41	45	40	40	No Change Conintuity of Speeds and low accident rate.
Tipton Road	132	Hwy 111 to Wendy Road	E/W	4/23/2013	40-49	46	49	50	50	No Change
	133	Wendy Road to I-10	N/S	4/23/2013	42-51	46	49	50	50	No Change
Toledo Avenu	134	La Verne Way to Murray Canyon Drive	N/S	4/17/2013	38-47	42	46	50	45	Decrease 85th %tile and low accident rate.
Vella Road	135	Ramon Road to Mesquite Avenue	N/S	8/22/2013	31-40	35	39	30	35	Increase 85th %tile and low accident rate.
Vista Chino	136	Gene Autry Trail to East City Limits	E/W	8/21/2013	50-59	54	58	50	50	No Change Vertical Curve and Sight Distance Constraints

*** = Speed Limit established at the nearest 5 mile per hour (mph) increment of 85th percentile speed per California MUTCD 2012 Edition**

SECTION III – SEGMENTS SPEED SURVEY ANALYSIS

3.1 Street Surveillance

Section 2B.13 of the California MUTCD states that the speed limit should be established at or near the 85th percentile speed recorded during the spot speed survey. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment may indicate the need for a further reduction in speed. Whenever such factors are considered to establish the speed limit, they should be documented on the speed survey or in the accompanying engineering report (Appendix A).

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

3.2 Accident Rate Analysis

The accident rate for each speed survey segment was determined by using the most recent accident records as required by CVC Section 627. Based on a review of the City's Accident Record System (Crossroads) reports from January 1, 2010 thru December 31, 2012, mid-block accident rates were calculated for each street surveyed.
The results of the accident rate calculations, including the expected accident rates for each type of roadway facility are given in Table 2 and the Engineering and Traffic Survey Summary (Appendix B). The expected accident rates are based on the latest City of Palm Springs compiled data and are as follows:

- Arterial Streets (4-6/Divided) 2.30
- Collector Streets (4/Undivided) 3.55
- Local Streets (2/Undivided) 1.98

The mid-block accident rate in terms of "accidents per 1,000,000 vehicle miles of travel" for each street surveyed was calculated and is shown on Table 2 and on the Engineering and Traffic Survey summary sheets. The following shows a sample calculation.

Accident Rate Calculation:

The rate was calculated using the following equation:

$$\text{Accident Rate} = \frac{\text{Number of Midblock accidents per year} \times 10^6}{\text{24-hour volume} \times 365 \times \text{segment length}}$$

Where: Number of mid-block accidents per year based on two

years (January 1, 2010 thru December 31, 2012), 24-hour volume (both directions) in the survey segment and segment length in miles.

Example:

Accident rate on Dinah Shore Drive between Gene Autry Trail and Crossley Road.

$$\text{Accident Rate} = \frac{1 \times 10^6 (8)}{21{,}189 \times 0.49 \times 365 \times 2}$$

$$= \textbf{1.06 accidents per million vehicle miles (A/MVM)}$$

The expected accident rate for the segment is 3.55. The calculated accident rate of 1.06 is below the expected rate for this segment.

An evaluation of the 38 roadway location presented on Table 2, were conducted and it is recommended that the existing speed limits be maintained with the exception of the following segments.

3.3 Spot Speed Survey

Spot speed surveys were conducted at each street segment to establish a reasonable and effective speed limit based on the premise that the speed limit thus established conforms to the actual behavior of the majority of motorists. The speed limit should be established at or near the 85th percentile speed recorded for the surveyed segment. However, engineering judgment and other factors such as street surveillance (Section 3.1) and accident rates discussed in Section 3.2 (Section 3.2) may indicate the need to further reduction in establishing reasonable and effective speed limits.
The criteria used in conducting the radar survey are listed in Appendix A.
Appendix C contains the spot speed survey data sheets for each of the 130 sections surveyed. The information collected and data calculated for the radar speed survey are as follows:

- Posted speed limit
- Direction of survey
- Date and time of speed survey
- 50th Percentile speed
- 85th Percentile speed
- 10 mph pace speed
- Percent over pace speed
- Range of speeds
- Number of vehicles observed
- Average speed
- Accident History
- Accident Rate
- Average Daily Traffic
- Road Description
- Pedestrian and Bicycle activity

The summary contains information about vehicular speed data observed, accident data, street classification, and any unusual conditions at the location.

SECTION 4.0

SURVEY FINDINGS AND RECOMMENDATIONS

In accordance with the State-imposed speed limit establishment regulation, as defined by CVC Section 627 and the criteria contained in the CAMUTCD 2012 Edition. There are several factors that may be considered to justify setting the prima facie speed limits. The CAMUTCD identifies two options that were previously discussed.

It should be noted that the regulations also state that the *maximum* permissible lowering of the proposed speed limit from the 85th percentile is 5 miles per hour below the estimated 85th percentile speed when documentation of conditions are included justifying the lowering of the speed.

The factors to be considered to lower the recommended speed are:

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

The 85th percentile speed and the above factors were considered in verifying existing speed limits and recommending speed limit changes (increase or decrease). Additionally, discussions were held with City staff in making decisions with respect to changing existing speed limits. This allowed for consideration of any special knowledge of the segment. Table 3 shows the surveyed road segments with posted and recommended speed limits.

4.1 Speed Limit Signing

All California motorists are required to know the basic 15, 25, and 65 MPH speed laws and are tested on the subject when applying for their driver's license. Consequently, speed limit signs covering these conditions need not be posted on City streets. However, although not required by law, speed limit signs for these situations may be posted on streets that have significant daily vehicular traffic volumes, a by-pass traffic situation, the continued violation of a residential 25 MPH speed zone, or with other applicable warrants.

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

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

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

A survey of the existing speed limit sign postings has been performed. Upon adoption of the recommended speed limits, Darnell & Associates, Inc. will submit memorandum/exhibits showing the recommended installation of new signs and/or relocation of existing signs.

SECTION IV - SUMMARY AND CONCLUSIONS

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

2. A total of 136 sections on the City's arterial, collector, and feeder roadway network were surveyed.

3. The accident rate for the majority of the street segments is well below the expected accident rate obtained from the City of Palm Springs for various types of roadway facilities.

4. Bicycle and Pedestrian accident frequency did not appear unusually high given the large amount of pedestrian and bicycle activity in the City.

5. A summary of recommended speed limits is shown in Table 3. The recommendations comply with the CAMUTCD 2012 Edition criteria.

6. It was concluded that the existing speeds on arterial, collector, and feeder roadways in the City of Palm Springs should remain unchanged except on the following roadway sections:

    - Amado Road between Indian Canyon and Avenida Caballeros: Increase the existing posted speed limit from 35 mph to 40 mph based on the 85th percentile speed.

    - Barona Road between East Palm Canyon Drive and South End: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed.

    - Belardo Road between Ramon Road and Sunny Dunes: Increase the existing posted speed limit from 35 mph to 40 mph based on the 85th percentile speed and low accident rate.

    - Belardo Road between Sunny Dunes and S. Belardo Road: Increase the existing posted speed limit from 35 mph to 40 mph based on the 85th percentile speed and low accident rate.

    - Camino Real between La Verne Way and Avenida Granada: Increase the existing posted speed limit from 30 mph to 35 mph based on the 85th percentile speed and low accident rate.

    - Camino Real between Avenida Granada and Murray Canyon: Increase the existing posted speed limit from 30 mph to 35 mph based on the 85th percentile speed and low accident rate.

    - Civic Drive between Aviation Way and Tahquitz Canyon Drive: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

    - Civic Drive between Tahquitz Canyon Drive and Baristo Road: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

- Dillon Road between Diablo and Melissa: Decrease the existing posted speed limit from posted speed limit 55 mph to 50 mph based on the 85th percentile speed and low accident rate.

- Garnet Avenue between Indian Canyon and West City Limits: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

- N. Indian Canyon Drive between Tramview Road and San Rafael Drive: Increase the existing posted speed limit from 45 mph to 50 mph based on the 85th percentile speed and low accident rate.

- N. Indian Canyon Drive between San Rafael Drive and Racquet Club Drive: Increase the existing posted speed limit from 45 mph to 50 mph based on the 85th percentile speed and low accident rate.

- N. Indian Canyon Drive between Vista Chino and Tachevah Drive: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Mesquite Avenue between Vella Road and Gene Autry Trail: Increase the existing posted speed limit from 35 mph to 40 mph based on the 85th percentile speed and low accident rate.

- Paseo Dorotea between Ramon Road and Mesquite Avenue: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between South Palm Canyon Drive and Avenida Caballeros: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between Avenida Caballeros and Sunrise Way: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between Sunrise Way and Farrell Drive: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between Farrell Drive and El Cielo Road: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between Gene Autry Trail and San Luis Rey Drive: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Ramon Road between San Luis Rey Drive and East City Limits: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- San Luis Rey Drive between Ramon Road to Mesquite Avenue: Increase the existing posted speed limit from 30 mph to 35 mph based on the 85th percentile speed and low accident rate.

- Sunny Dunes Road between Paseo Dorotea and Gene Autry Trail: Increase the existing posted speed limit from 30 mph to 35 mph based on the 85th percentile speed and low accident rate.

- Sunrise Way between North End and Racquet Club Drive: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Sunrise Way between Tachevah Drive and Alejo Road: Increase the existing posted speed limit from 40 mph to 45 mph based on the 85th percentile speed and low accident rate.

- Tachevah Drive between Indian Canyon Drive and Via Miraleste: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

- Tachevah Drive between Via Miraleste and Avenida Caballeros: Increase the existing posted speed limit from 25 mph to 30 mph based on the 85th percentile speed and low accident rate.

- Tachevah Drive between Avenida Caballeros and Sunrise Way: Decrease the existing posted speed limit from 45 mph to 40 mph based on the 85th percentile speed and low accident rate.

- Toledo Avenue between La Verne Way and Murray Canyon Drive: Decrease the existing posted speed limit from 50mph to 45 mph based on the 85th percentile speed and low accident rate.

- Vella Road between Ramon Road and Mesquite Ave: Increase the existing posted speed limit from 30 mph to 35 mph based on the 85th percentile speed and low accident rate.