

# **CITY OF MERCED**



## **REQUEST FOR PROPOSAL**

**for  
Speed Zone Study**

**Development Services Department  
Engineering Division  
678 West 18th Street  
2<sup>nd</sup> Floor  
Merced, CA 95340Merced, CA 95341**

**Proposals Due by 3:00 pm on December 7, 2016**

## **Project Overview**

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The City of Merced (“City”) is seeking professional engineering services to conduct a speed zone study for new streets incorporated since 2011, surveys that have expired or will expire soon and are deemed urgent for renewal (See Appendix A). The new streets are as follows:

- Willowbrook Drive, between Snelling Hwy (Route 59) and Storybrook Avenue/ La Cresenta Avenue
- Dunn Road, at between N. Gardner Avenue and Pailson Road

The engineer should develop an assessment of which roadway should be renewed or altered based on the street inventory provided as well as the newly incorporated streets listed. The engineer will be expected to conduct kick-off meetings and coordinate with the City representatives to discuss findings and gain approval through the preliminary report for changes to speed limits before finalizing the traffic surveys.

## **City Background**

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The City of Merced is a California municipal corporation in the county of Merced, located in the San Joaquin Valley approximately 130 miles southeast of San Francisco. The Golden State Highway (SR 99) runs through the south end of the City which is approximately 23.3 square miles. Its municipal neighbors include Atwater to the north and Chowchilla to the south. Incorporated in 1889, the City has rapidly expanded its’ retail growth, adding 750,000 square feet of retail space and has opened the 10<sup>th</sup> University California campus in September 2005.

## **Project Background**

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The City of Merced speed surveys are completed on an individual street basis, not on a citywide basis, as with some other jurisdictions in California. They expire at different times based on the original study date. The City of Merced conducted its last speed zone study effective June 15<sup>th</sup>, 2011, adopted by Ordinance No. 2370. Surveys qualify for renewal when they expire seven (7) years after completion, but can be extended for an additional three (3) years, under certain conditions.

Renewal of a survey could be due to one of the following conditions:

- Significant changes in the roadway or traffic conditions have occurred;
- The roadway segment’s survey has already been in effect for seven (7) years and significant changes in roadway or traffic conditions have occurred; or
- The roadway segment’s survey has already been in effect for ten years.

“Extension” refers to a survey for a roadway segment that can be extended for three (3) additional years where significant changes in the roadway or traffic conditions have not occurred, and the survey is more than seven (7) years old, but less than 10 years old.

This request for proposal is for selection of a professional consultant to complete traffic surveys for the City of Merced, in conformance with the California Vehicle Code (CVC) as required by local jurisdictions. The surveys shall also be conducted in accordance with the applicable sections of the Manual of Uniform Traffic Control Devices (MUTCD), California Edition 2014 (see Appendix B). Procedures should follow the 2014 California Manual for Setting Speed Limits, which further clarifies the MUTCD. As such, this request for proposal will be for newly incorporated streets and those surveys that have expired or will soon expire and are deemed urgent for renewal, to allow for electronic speed enforcement.

## **PART A - Scope of Work**

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Appendix A shows a list of streets surveyed in 2011 that will be surveyed as part of this project. The list of streets includes location, segment limits, current speed limit, and date of survey. The intent of this project is to bring current all speed zone survey segments in Appendix A, and new street segments provided.

The City of Merced is currently re-evaluating its format of speed surveys and is in the process of updating its policies and procedures related to streamlining the completion process of its surveys consistent with the industry best practices. The response to this proposal shall include a sample format of similar types of work completed by the consultant for other jurisdictions, or a proposal of the speed survey format proposed to be used for this project. Consultants must respond to this proposal with specific strategies for how they will approach ensuring all renewals will be completed as indicated above, and provide a detailed project schedule by phase.

The City of Merced reserves the right to change the locations, and the number of study segments, as priorities change, up to the time work begins on a particular location. The consultant selected shall notify City of Merced prior to beginning work in earnest on a particular street to confirm that it is still a priority location. The work produced should be on an individual street basis, submitted to City of Merced upon completion of the desired project descriptions and anticipated deliverables outlined below for each street. The consultants must respond to this proposal with a more detailed strategy on how to accomplish the desired phases and outcomes and may add to the descriptions below.

## **PROJECT MANAGEMENT AND COORDINATION**

The consultant will provide overall project management for the duration of the project. This includes coordination with City of Merced staff on scheduling and attending the kick-off meeting. This also includes coordinating site visits, data acquisition, and reporting on speed spot studies, preliminary study and final traffic survey.

The selected consultant will be expected to provide monthly progress reports to City of Merced and adhere to a jointly established timeline. City staff has the responsibility of providing timely response to requests for information made by the consultant.

## **DATA ACQUISITION AND SITE ANALYSIS**

The consultant will conduct a field investigation and inspection of the street segments to determine relevant information. This information should be important in the determination of the appropriate speed limit, which may include but is not limited to geometry, roadway width, alignment, number of lanes, roadside development, parking, signalized driveways, major traffic generators and other traffic control devices, as necessary.

General tasks/milestones:

- Conduct kick-off meeting to discuss input with City representatives (City Engineer, Police Representative, City Planner);
- Conduct site assessment and prepare field notes for the segments of each street within the defined inventory;
- Conduct traffic counts at various locations along the segment to determine the average daily traffic (ADT), as necessary;
- Conduct meetings with the City representatives to discuss findings from site analysis and data acquisition.

## **SPOT SPEED STUDIES**

The consultant will conduct spot speed studies along the roadway segment of various locations, within the street inventory, using calibrated electronic equipment to determine the 85th percentile speed (critical speed). The equipment calibration certificates shall be provided to City of Merced. Spot speed studies should be completed in accordance with the CVC and the California MUTCD. A minimum of 100 vehicles in each direction shall be sampled per location and the summary sheet for spot speed data shall be plotted in 1 mile-per-hour increments.

General tasks/milestones:

- Determine locations to be assessed for speed spot studies based on engineering judgment;
- Provide equipment calibration certificates to the City of Merced representatives;
- Speed Spot Study shall report vehicles observed, 50<sup>th</sup> percentile speed, 85<sup>th</sup> percentile speed, speed range, 10mph pace speed and number of vehicles observed for each speed in an editable format (such as Microsoft Excel) for the City; and
- Discuss input with City representatives and incorporate as needed into Preliminary Report.

## **PRELIMINARY REPORT/ FINAL TRAFFIC SURVEY**

Prior to preparing the final Traffic Survey, City of Merced requests a preliminary report for each segment indicating the likelihood of the existing speed limit changing or remaining unchanged. For new segments that have not been previously surveyed, City of Merced requests an appraisal of what the speed limit will likely be. City of Merced may determine it necessary to discontinue work on a particular segment or street, and not move forward with subsequent phase, depending on the results indicated in this preliminary report. Consultant shall seek approval from City of Merced, before continuing on to the next phase for each segment.

After review by the City of Merced, make any changes as deemed necessary. Prepare the final ETS ready for stamp and signature by City of Merced city engineer and professional engineering consultant, and submit to City of Merced.

In this phase, based on staff review, the Final Traffic Survey will be developed. This will reflect the needs and interests identified by the City's staff. The Traffic Survey should also reflect sound engineering judgment and standards to provide safe, enforceable speed zones.

General tasks/milestones:

- Prepare preliminary report for each segment (clearly labeled "Preliminary Report");
- Surveys and data shall be delivered in an editable format such as Microsoft Excel, not PDF, or other static format;
- Present report to City staff for review and preliminary approval and revise as necessary based on the input of the City of Merced;
- Submit Final Traffic Study with stamp and signature of City of Merced city engineer and professional engineering consultant in responsible charge of the project.

## **PART B – Contract Terms and Insurance**

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Any contract awarded on the basis of this RFP will be subject to the contract terms included in this RFP and as negotiated between the City and selected consultant.

**Form of Contract:** Requirements as indicated in Attachment A. The successful proposer will be expected to execute as part of the negotiated contract. Any exceptions to the form of the contract must be clearly stated in the proposal and may be grounds for being declared non-responsive.

**Insurance & Indemnity:** Requirements as indicated in Attachment A. Insurance certificates are required to be submitted by the chosen Consultant prior to contract award, failure to provide these in a timely manner may result in a different proposal selection.

In addition, we require a statement indicating that you will be able to provide an insurance certificate naming the City of Merced as an additional insured per Attachment A; **and revising the cancellation clause.** The standard form used by insurance carriers will not be accepted unless the word "endeavor" is crossed out where the paragraph states, "The issuing company will (endeavor to) mail ..."; and a portion of the last paragraph shall be crossed out, which states, "but failure to mail such notice shall impose no obligation or liability of any kind upon the company."

## **PART C – Other Requirements**

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### **Conflicts of Interest**

The Contractor/Vendor must be aware of and comply with conflict of interest rules included in the California Political Reform Act, and Section 1090 et. seq. of the Government Code. The Political Reform Act requires City officers and committee members to file statements of interest and abide by a Conflict of Interest Code. Section 1090 limits or prohibits a public official from contracting with a body of which an official is a member. Section 1090 applies even where the officer only reviews the contract for the approving body.

If the proposer holds no City office, committee appointment or other relationship, the proposal should simply state that in response to this item.

### **Method of Compensation**

The consultant is to identify an hourly rate of compensation, cost by task, and a “not to exceed” figure for the project. Progress payments, upon invoice, will be made monthly based on actual hours worked applied to the agreed upon hourly rates of compensation. The Consultant must also identify and reimbursable expenses and give a “not-to-exceed” total for reimbursables. Any necessary services outside the scope of the work must also be identified.

## **PART D - Proposed Timeline**

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November 16, 2016	RFP available on City of Merced website
November 30, 2017, 3 pm	Submission deadline for written questions
December 2, 2016	Responses to written questions available on City of Merced website

### ***December 7, 2016, 3 pm Technical and Sealed Cost Proposals Due***

December 19, 2016	Recommendation to City Council
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## **PART E - Submittal Process**

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1. Applicant questions: All questions regarding the RFP shall be submitted in writing no later than 3:00 p.m. per the attached schedule to Joe Cardoso, at [cardosoj@cityofmerced.org](mailto:cardosoj@cityofmerced.org). Questions and responses will be posted within on the Merced City website per the attached schedule.
2. Submittal Deadline: Wednesday, December 7, 2016, at 3:00 p.m. Late submittals will not be accepted. Format and Delivery: Submit three (3) letter-sized copies with one (1) unbound copy of the technical proposal to:

Engineering Department  
City of Merced  
678 West 18<sup>th</sup> Street, Second Floor  
Merced, CA 95340

and e-mail a PDF copy to Theron Roschen at [roschent@cityofmerced.org](mailto:roschent@cityofmerced.org).

Submittals will not be returned. **One (1) copy of the cost proposal shall be submitted in a separate sealed envelope at the same time as submittal of the technical proposal.**

**Proposals submitted after the deadline will not be accepted for consideration.**

The City reserves the right to accept or reject any or all proposals, or to alter the selection process in any lawful way, to postpone the selection process for its own convenience at any time, and to waive any non-substantive defects in this RFP or the proposals.

The City is seeking to engage the most qualified person or firm. The City reserves the right to negotiate with other qualified persons or firms, or to solicit additional statements of qualifications at any point in the project should it fail to negotiate a reasonable fee with the initially selected person or firm.

All proposals shall remain firm for one hundred and twenty (120) calendar days after the proposal opening.

The City is not responsible to any proposer for the costs incurred in the preparation of the response to this RFP regardless of which Proposer is selected.

**QUESTIONS/CLARIFICATIONS: Contact City Engineer Theron Roschen at (209) 385-6846.**

## **PART F - Proposal Content**

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The proposal should include the following:

1. **FIRM OR PERSON INTRODUCTION:** including information such as length of time in business, office location(s), number of staff and a general summary of qualifications documenting the strengths of the firm or person, areas of expertise and licensing.
2. **APPROACH:** the person or firm's project management practices, methodologies and processes.
3. **PROJECT EXPERIENCE:** listing specific project management experience that is related to the type of service required by the project. Project experience should list the type of work provided with the client contact information for each project.
4. **WORK PLAN:** Detailed work plans with estimated hours by task or project phase.
5. **KEY STAFF:** including the identification of the Principal-in-Charge and key staff. This section should identify the qualifications and related experience of key staff assigned to the project; and includes their resume showing experience in project management services.
6. **LITIGATION:** - A list of any current litigation to which the firm or person are parties by virtue of their professional service, in addition to a list of any such litigation from the past ten years.
7. **DISCLOSURE:** of any past, ongoing, or potential conflicts of interest that the firm or person may have as a result of performing the anticipated work.
8. **CONTRACT:** - A statement certifying that the Consultant has read, understood, and can execute the attached standard professional service contract and required insurance.

## **PART G - Selection Criteria**

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There will be no public opening of submitted proposals. The Technical proposals shall be evaluated by individuals within the City of Merced, who shall prepare their evaluation based on the criteria contained herein. The proposals will not be available for public review.

Selection will be based on the following evaluation criteria:

1. Project understanding, as demonstrated by work plan and approach. (15%)
2. Qualifications and experience of key personnel and other team members, including sub-consultants. (35%)
3. Recent experience in performing similar studies. (20%)
4. Recent past performance in quality and completeness of work and delivery on time and within budget. (20%)
5. Feedback from references given. (10%)

After reviewing proposals, the City may either directly enter into negotiations with the firm it finds best qualified or select a short list of firms to be interviewed by a selection panel. The City reserves the right to modify the scope of work during negotiations, subject to mutual approval. If the City is unable to negotiate a satisfactory agreement with its first choice it will enter into negotiations with the next choice. Final approval of the firm recommended by City staff, the fee and the contract must be reviewed and approved by the Merced City Council.

**References: Appendix A - CAMUTCD Traffic Survey Section  
Appendix B - Street Inventory**

**Attachments:**

**A. Standard Professional Services Agreement**

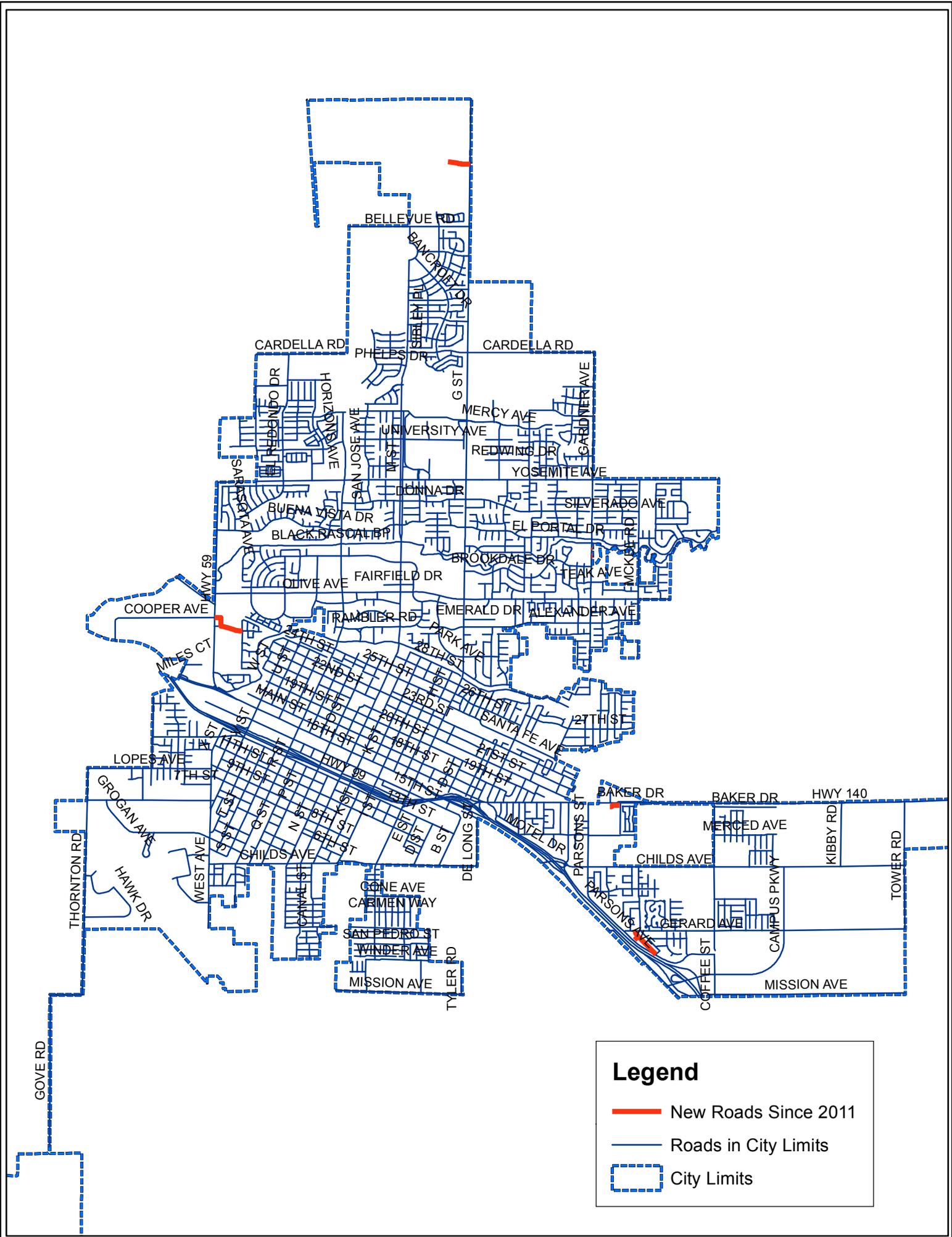
## **Appendix A – Street Inventory**

	Street	Segment	Existing Speed Limit	Median Speed	Critical Speed	Pace Speed	Recommended Speed Limit
1	02nd Street	West Avenue to Q	30	27	31	24-33	30
2	08th Street	V to MLK Jr Way	30	27	32	25-34	30
3	10th Street	V to R	25	24	29	22-31	30
4	11th Street	V to R	25	24	29	21-30	30
5	11th Street	R to M	25	23	28	20-29	30
6	11th Street	M to G	25	25	29	19-28	30
7	12th Street	V to G	25	22	25	18-27	30
8	13th Street	V to Q	35	37	45	31-40	40
9	13th Street	Q to G	35	30	35	27-36	35
10	13th Street, East	G to B	30	27	31	24-33	30
11	14th Street	R to G	35	30	35	28-37	35
12	15th Street	V to MLK Jr Way	30	24	28	22-31	30
13	15th Street, East	G to B	40	34	40	29-38	40
14	16th Street	West City Limit to Highway 59	45	44	48	41-50	45
15	16th Street	Highway 59 to R	35	33	37	29-38	35
16	16th Street	R to G	35	33	38	30-39	35
17	16th Street, East	G to Yosemite Pkwy	40	35	42	33-42	40
18	18th Street	V to O	30	27	31	23-32	30
19	18th Street	O to MLK Way	30	25	30	22-31	30
20	18th Street	MLK Way to G	30	26	31	21-30	30
21	18th Street	G to Cedar	25	26	30	22-31	30
22	19th Street	V to G	30	26	32	24-33	30
23	20th Street	W to R	30	30	34	26-35	35
24	20th Street	R to M	30	30	34	26-35	35
25	20th Street	M to G	30	26	30	22-31	30
26	20th Street, East	G to Glen	30	30	34	26-35	35
27	21st Street	W to O	25	24	27	19-28	25
28	21st Street	M to G	35	28	33	26-35	35
29	21st Street, East	G to East City Limit	35	33	37	29-38	35
30	22nd Street	Canal to G	25	25	29	22-31	30
31	22nd Street	W to R	25	27	32	24-33	30
32	23rd Street	V to M	30	26	31	21-30	30
33	23rd Street	M to G	25	24	28	22-31	30
34	23rd Street, East	G to Glen	25	26	31	23-32	30
35	25th Street	R to M	30	26	30	22-31	30
36	26th Street	M to G	30	23	27	20-29	25
37	26th Street, East	G to Glen	30	25	29	21-30	30
38	27th Street	M to G	30	25	30	22-31	30
39	27th Street, East	G to 7th Ave	25	22	26	19-28	25
40	27th Street, East	Glen to McKee	30	25	31	23-32	30
41	Alexander Avenue	Rambler to G	30	25	30	22-31	30
42	Alexander Avenue	G to Oleander	30	28	33	25-34	30
43	Alexander Avenue	Oleander to Parsons	30	28	32	24-33	30
44	Alexander Avenue	Parsons to McKee	30	28	32	24-33	30
45	Austin Avenue	Devonwood to Olive	25	25	28	20-29	30
46	Austin Avenue	Olive to Loughborough	30	28	34	24-33	35
47	Auto Center Drive	V to Westerly End	30	26	32	24-33	30
48	B Street	Childs to 15th	35	30	35	27-36	35
49	Bear Creek Drive North	Highway 59 to Brookside	35	27	31	24-33	35

	Street	Segment	Existing Speed Limit	Median Speed	Critical Speed	Pace Speed	Recommended Speed Limit
50	Bear Creek Drive North	Brookside to R	35	33	39	30-39	35
51	Bear Creek Drive North	R to M	35	32	35	27-36	35
52	Bear Creek Drive North	M to G	35	35	37	30-39	35
53	Bear Creek Drive North	G to East City Limit	35	35	39	32-41	35
54	Bear Creek Drive, South	G to 6th	35	27	32	22-31	35
55	Bear Creek Drive, South	6th to Cameron	40	34	38	30-39	35
56	Bellevue Road	West City Limit to G	55	55	62	54-63	55
57	Brookdale Drive	G to Cherokee	30	25	29	21-30	30
58	Brookdale Drive	Cherokee to Parsons	30	29	32	24-33	30
59	Buena Vista Drive	Highway 59 to R	35	31	36	25-34	35
60	Buena Vista Drive	R to M	30	27	32	23-32	30
61	Buena Vista Drive	M to Campus	N/A	27	31	24-33	30
62	Campus Parkway	Highway 99 exit to Childs Ave.	0	50	56	47-56	55
63	Canal Street	13th to 16th	30	25	30	21-30	30
64	Canal Street	Main to Railroad	25	27	31	23-32	30
65	Canal Street	Railroad to 27th	25	23	28	19-28	30
66	Cardella Road	G to M	45	38	44	36-45	45
67	Cardella Road	M to West Dead End	0	35	41	31-40	40
68	Cherokee Avenue	Seneca to El Portal	30	27	32	24-33	30
69	Childs Avenue	West Avenue to MLK Way	35	31	34	26-35	35
70	Childs Avenue	MLK Way to G	0	33	37	30-39	35
71	Childs Avenue	G to DeLong	0	38	44	36-45	40
72	Childs Avenue	Motel to Parsons	30	27	33	22-31	35
73	Childs Avenue	Parsons to Weaver	35	37	43	33-42	40
74	Childs Avenue	Coffee to Doane Lateral	35	40	46	36-45	40
75	Childs Avenue	Doane Lateral to Kibby	55	42	50	38-47	50
76	Childs Avenue	Kibby to Tower	55	49	55	45-54	55
77	Coffee Road	Childs to Gerard	35	34	40	29-38	40
78	Coffee Road	Childs to Baker	0	36	42	32-41	40
79	College Green Drive	Park to Olive	30	25	30	22-31	30
80	Collins Drive	M Street to Olive Ave	25	25	29	22-31	30
81	Columbia Avenue	G to Cherokee	30	29	34	24-33	35
82	Columbia Avenue	Cherokee to El Portal	30	27	30	23-32	30
83	Cone Avenue	West City Limit to East City Limit	25	29	35	23-32	35
84	Cooper Avenue	Ashby to Highway 59	40	37	43	34-43	40
85	D Street	Childs to 13th	30	25	30	22-31	30
86	Devonwood Drive	Mistwood to Austin	35	28	34	24-33	35
87	Devonwood Drive	Austin to Meadows	30	27	32	24-33	30
88	Dinkey Creek	Coffee to Albert	0	26	32	22-31	30
89	Dinkey Creek	Parsons to East dead end	0	22	27	18-27	25
90	Donna Drive	R to M	30	29	34	25-34	35
91	Donna Drive	M to G	30	28	32	24-33	30
92	Donna Drive	G to Joerg	30	30	34	26-35	35
93	El Portal Drive	G to Cherokee	30	29	33	25-34	30
94	El Portal Drive	Cherokee to Joerg	30	26	30	23-32	30
95	El Portal Drive	Joerg to Parsons	30	29	35	26-35	30
96	G Street	Childs to 11th	35	29	34	25-34	35
97	G Street	11th to 19th	35	28	34	25-34	35
98	G Street	19th to North Bear Creek	35	32	35	27-36	35

	Street	Segment	Existing Speed Limit	Median Speed	Critical Speed	Pace Speed	Recommended Speed Limit
99	G Street	North Bear Creek to Olive	40	37	41	34-43	40
100	G Street	Olive to Yosemite	45	37	43	32-41	45
101	G Street	Yosemite to Cardella	55	45	52	42-51	50
102	G Street	Cardella to Bellevue	55	49	55	47-56	55
103	G Street	Bellevue to Old Lake	55	56	61	52-61	55
104	Gardner Road	Yosemite to Cardella	40	38	46	34-43	45
105	Gerard Avenue	N to South Highway 59	0	32	37	27-36	35
106	Gerard Avenue	South 59 to Las Brisas	40	34	41	30-39	40
107	Gerard Avenue, East	Parsons to Coffee	35	25	30	22-31	35
108	Gerard Avenue, East	Coffee to Tower	55	39	47	33-42	45
109	Glen Avenue	Yosemite Pkwy to Santa Fe	30	27	31	24-33	30
110	Glen Avenue	Santa Fe to South Bear Creek	30	28	33	25-34	30
111	Gove Road	South Limit to Dickinson Ferry	50	0	0	0	50
112	Grogan Aveune	Wardrobe to West Avenue	40	38	44	34-43	45
113	Joerg Avenue	El Portal to Yosemite	25	28	32	25-34	30
114	Kibby Road	Childs to Highway 140	45	42	47	39-48	45
115	Lopes Avenue	Thornton to West Avenue	30	27	32	24-33	30
116	Loughborough Drive	Mistwood to Olive	25	28	33	23-32	30
117	Loughborough Drive	Olive to Austin	35	29	32	26-35	30
118	Loughborough Drive	Austin to R	35	29	32	24-33	30
119	Loughborough Drive	R to M	35	32	36	28-37	35
120	M Street	Childs to 16th	30	26	31	23-32	30
121	M Street	16th to North Bear Creek	35	28	33	25-34	35
122	M Street	North Bear Creek to Olive	35	34	38	30-39	40
123	M Street	Olive to Yosemite	40	36	42	33-42	40
124	M Street	Yosemite to Cardella	0	35	41	31-40	40
125	M Street	Cardella to Bellevue	0	35	40	31-40	40
126	MacReady Drive	Grogan to Grogan	25	27	31	22-31	30
127	Main Street	V to O	30	23	28	21-30	30
128	Main Street	O to MLK Way	30	18	22	15-24	30
129	Main Street	MLK Way to G	30	27	32	24-33	30
130	Main Street, East	G to Yosemite Pkwy	40	34	38	30-39	40
131	Mansionette	Yosemite to Mercy Ave	40	35	40	32-41	35
132	Martin Luther King Jr Way	13th to 21st	30	25	29	21-30	30
133	McKee Road	Alexander to Olive	40	37	42	34-43	40
134	McKee Road	Olive to North City Limit	40	36	40	33-42	40
135	Meadows Avenue	Devonwood to Olive	25	25	28	22-31	30
136	Meadows Avenue	Olive to Loughborough	0	27	32	22-31	30
137	Merced Avenue	Parsons to Motel	35	28	32	24-33	30
138	Merced Avenue	Coffee to East City Limits	0	26	30	22-31	30
139	Mission	Coffee to East City Limits	55	0	0	0	55
140	Motel Drive	Childs to Yosemite Pkwy	40	39	44	34-43	45
141	N Street, South	Gerard to Childs	0	28	33	24-33	35
142	N Street	Childs to 13th	30	29	33	25-34	35
143	O Street	13th to 18th	30	23	26	19-28	30
144	Olive Avenue	Highway 59 to Meadows	40	37	44	33-42	45
145	Olive Avenue	Meadows to G	40	39	46	34-43	45
146	Olive Avenue, East	G to Lincoln	40	38	42	34-43	40
147	Olive Avenue, East	Lincoln to McKee	40	37	42	35-44	40

	Street	Segment	Existing Speed Limit	Median Speed	Critical Speed	Pace Speed	Recommended Speed Limit
148	Olive Avenue, East	McKee to East City Limit	40	39	45	36-45	45
149	Olivewood Drive	M to R	30	27	33	23-32	35
150	Olivewood Drive	R to Meadows	30	28	32	24-33	30
151	Park Avenue	Olive to Alexander	30	28	34	25-34	35
152	Park Avenue	Alexander to G	30	27	31	23-32	30
153	Parsons Avenue	Coffee St to Dinkey Creek	35	37	43	35-44	45
154	Parsons Avenue	Dinkey Creek to Yosemite Pkwy	35	32	36	28-37	35
155	Parsons Avenue	Stretch to East 27th	35	32	37	28-37	35
156	Parsons Avenue	North Bear Creek to Alexander	35	33	39	30-39	40
157	Parsons Avenue	Alexander to Olive	35	31	35	27-36	35
158	Parsons Avenue	Olive to Brookdale	35	28	33	26-35	35
159	Parsons Avenue	Brookdale to North City Limit	25	37	45	31-40	40
160	Paulson Road	Yosemite Ave E to North City Limits	40	33	38	28-37	40
161	R Street	Childs Ave to 13th Street	35	30	33	26-35	35
162	R Street	13th Street to 22nd Street	30	30	35	25-34	35
163	R Street	22nd Street to North Bear Creek	30	30	34	26-35	35
164	R Street	North Bear Creek to Olive Ave	40	35	38	30-39	40
165	R Street	Olive to Yosemite Ave	0	37	43	32-41	40
166	Rambler Road	R to M	25	25	31	22-31	25
167	Rambler Road	M to College Green	25	25	28	22-31	25
168	S Street	16th to 24th	25	23	27	19-28	25
169	San Jose Avenue	Yosemite to Lehigh	40	31	37	27-36	35
170	Santa Fe Avenue	G to 6th	35	0	0	0	35
171	Santa Fe Avenue	6th to Glen	40	0	0	0	40
172	Santa Fe Avenue	Glen to Stretch	40	36	41	31-40	40
173	T Street	16th to 24th	25	23	27	21-30	25
174	Thornton Avenue	Dickinson Ferry to Lopes	55	47	55	42-51	55
175	Tower Road	Childs to Highway 140	45	35	43	32-41	45
176	University	San Jose to M	30	29	34	24-33	30
177	V Street	West Avenue to 13th	35	31	36	27-36	35
178	V Street	13th to 16th	30	24	29	19-28	30
179	V Street	16th to 23rd	35	27	31	24-33	30
180	Wardrobe Avenue	Thornton to West Avenue	40	35	42	29-38	40
181	West Avenue	S/o Childs	35	34	37	29-38	35
182	West Avenue	Childs to V	35	34	39	32-41	35
183	West Avenue	V to 8th	35	27	33	22-31	35
184	Yosemite Avenue	R to M	45	36	42	34-43	45
185	Yosemite Avenue	M to G	45	36	42	33-42	45
186	Yosemite Avenue	Highway 59 to R Street	45	43	47	40-49	45
187	Yosemite Avenue	G to Paulson	45	40	45	37-46	45
188	Yosemite Avenue	Paulson to Gardner	45	44	48	40-49	45
189	Yosemite Avenue	Gardner to McKee	0	41	45	37-46	45
190	Yosemite Avenue	McKee to East City Limit	0	44	48	40-49	50



**Legend**

- New Roads Since 2011
- Roads in City Limits
- City Limits

**Appendix B – CAMUTCD Traffic Survey Section**

# California Manual on Uniform Traffic Control Devices

FHWA's MUTCD 2009 Edition, including Revisions 1 & 2 as amended for use in California.

**2014 Edition**  
(Including Revision 1)

State of California  
California State Transportation Agency  
Department of Transportation



**04 If used, the Overhead Pedestrian Crossing sign shall be placed over the roadway at the crosswalk location.**

**05 An In-Street or Overhead Pedestrian Crossing sign shall not be placed in advance of the crosswalk to educate road users about the State law prior to reaching the crosswalk, nor shall it be installed as an educational display that is not near any crosswalk.**

*Guidance:*

*06 If an island (see Chapter 3I) is available, the In-Street Pedestrian Crossing sign, if used, should be placed on the island.*

*Option:*

*07 If a Pedestrian Crossing (W11-2) warning sign is used in combination with an In-Street or an Overhead Pedestrian Crossing sign, the W11-2 sign with a diagonal downward pointing arrow (W16-7P) plaque may be post-mounted on the right-hand side of the roadway at the crosswalk location.*

**Standard:**

**08 The In-Street Pedestrian Crossing sign and the Overhead Pedestrian Crossing sign shall not be used at signalized locations.**

**09 The STOP FOR legend shall only be used in States where the State law specifically requires that a driver must stop for a pedestrian in a crosswalk.**

**10 The In-Street Pedestrian Crossing sign shall have a black legend (except for the red STOP or YIELD sign symbols) and border on a white background, surrounded by an outer yellow or fluorescent yellow-green background area (see Figure 2B-2). The Overhead Pedestrian Crossing sign shall have a black legend and border on a yellow or fluorescent yellow-green background at the top of the sign and a black legend and border on a white background at the bottom of the sign (see Figure 2B-2).**

**11 Unless the In-Street Pedestrian Crossing sign is placed on a physical island, the sign support shall be designed to bend over and then bounce back to its normal vertical position when struck by a vehicle.**  
**Support:**

**12 The Provisions of Section 2A.18 concerning mounting height are not applicable for the In-Street Pedestrian Crossing sign.**

**Standard:**

**13 The top of an In-Street Pedestrian Crossing sign shall be a maximum of 4 feet above the pavement surface. The top of an In-Street Pedestrian Crossing sign placed in an island shall be a maximum of 4 feet above the island surface.**

**Option:**

**14 The In-Street Pedestrian Crossing sign may be used seasonably seasonally to prevent damage in winter because of plowing operations, and may be removed at night if the pedestrian activity at night is minimal.**

**15 In-Street Pedestrian Crossing signs, Overhead Pedestrian Crossing signs, and Yield Here To Pedestrians signs may be used together at the same crosswalk.**

### **Section 2B.13 Speed Limit Sign (R2-1)**

**Support:**

**00 The setting of speed limits can be controversial and requires a rational and defensible determination to maintain public confidence. Speed limits are normally set near the 85th-percentile speed that statistically represents one standard deviation above the average speed and establishes the upper limit of what is considered reasonable and prudent. As with most laws, speed limits need to depend on the voluntary compliance of the greater majority of motorists. Speed limits cannot be set arbitrarily low, as this would create violators of the majority of drivers and would not command the respect of the public.**

**Standard:**

**01 Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering and traffic survey (E&TS) study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles.**

**02 The Speed Limit (R2-1) sign (see Figure 2B-3) shall display the limit established by law, ordinance, regulation, or as adopted by the authorized agency based on the engineering study. The speed limits displayed shall be in multiples of 5 mph.**

**03 Speed Limit (R2-1) signs, indicating speed limits for which posting is required by law, shall be located at the points of change from one speed limit to another.**

**04 At the downstream end of the section to which a speed limit applies, a Speed Limit sign showing the next speed limit shall be installed. Additional Speed Limit signs shall be installed beyond major intersections and at other locations where it is necessary to remind road users of the speed limit that is applicable.**

**05 Speed Limit signs indicating the statutory speed limits shall be installed at entrances to the State and, where appropriate, at jurisdictional boundaries in urban areas.**

Support:

**06 In general, the maximum speed limits applicable to rural and urban roads are established:**

**A. Statutorily – a maximum speed limit applicable to a particular class of road, such as freeways or city streets, that is established by State law; or**

**B. As altered speed zones – based on engineering studies.**

**07 State statutory limits might restrict the maximum speed limit that can be established on a particular road, notwithstanding what an engineering study might indicate.**

Option:

~~**08 If a jurisdiction has a policy of installing Speed Limit signs in accordance with statutory requirements only on the streets that enter a city, neighborhood, or residential area to indicate the speed limit that is applicable to the entire city, neighborhood, or residential area unless otherwise posted, a CITYWIDE (R2-5aP), NEIGHBORHOOD (R2-5bP), or RESIDENTIAL (R2-5cP) plaque may be mounted above the Speed Limit sign and an UNLESS OTHERWISE POSTED (R2-5P) plaque may be mounted below the Speed Limit sign (see Figure 2B-3).**~~

Guidance:

***09 A Reduced Speed Limit Ahead (W3-5 or W3-5a) sign (see Section 2C.38) should be used to inform road users of a reduced speed zone where the speed limit is being reduced by more than 10 mph, or where engineering judgment indicates the need for advance notice to comply with the posted speed limit ahead.***

***10 States and local agencies should conduct engineering studies at least once every 5, 7 or 10 years, in compliance with CVC Section 40802 to reevaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review, such as the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes in traffic control signal coordination, or significant changes in traffic volumes.***

***11 No more than three speed limits should be displayed on any one Speed Limit sign or assembly.***

~~***12 When a speed limit within a speed zone is posted, it should be within 5 mph of the 85<sup>th</sup> percentile speed of free-flowing traffic.***~~

Standard:

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

Option:

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

Standard:

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

Support:

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

**Example 1.** Using Option 1 above and first step is to round down: If the 85<sup>th</sup> percentile speed in a speed survey for a location was 37 mph, then the speed limit would be established at 35 mph since it is the closest 5 mph increment to the 37 mph speed. As indicated by the option, this 35 mph established speed limit could be reduced by 5 mph to 30 mph if

the conditions and justification for using this lower speed limit are documented in the E&TS and approved by a registered Civil or Traffic Engineer.

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

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

**Standard:**

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

**Option:**

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

**Support:**

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

<sup>13</sup> *Speed studies for signalized intersection approaches should be taken outside the influence area of the traffic control signal, which is generally considered to be approximately 1/2 mile, to avoid obtaining skewed results for the 85<sup>th</sup>-percentile speed.*

**Support:**

<sup>14</sup> Advance warning signs and other traffic control devices to attract the motorist's attention to a signalized intersection are usually more effective than a reduced speed limit zone.

**Guidance:**

<sup>15</sup> *An advisory speed plaque (see Section 2C.08) mounted below a warning sign should be used to warn road users of an advisory speed for a roadway condition. A Speed Limit sign should not be used for this situation.*

**Option:**

<sup>16</sup> Other factors that may be considered when establishing or reevaluating speed limits are the following:

- A. Road characteristics, shoulder condition, grade, alignment, and sight distance;
- B. The pace;
- C. Roadside development and environment;
- D. Parking practices and pedestrian activity; and
- E. Reported crash experience for at least a 12-month period.

<sup>17</sup> Two types of Speed Limit signs may be used: one to designate passenger car speeds, including any nighttime information or minimum speed limit that might apply; and the other to show any special speed limits for trucks and other vehicles.

<sup>18</sup> A changeable message sign that changes the speed limit for traffic and ambient conditions may be installed provided that the appropriate speed limit is displayed at the proper times.

<sup>19</sup> A changeable message sign that displays to approaching drivers the speed at which they are traveling may be installed in conjunction with a Speed Limit sign.

**Guidance:**

<sup>20</sup> *If a changeable message sign displaying approach speeds is installed, the legend YOUR SPEED XX MPH or such similar legend should be displayed. The color of the changeable message legend should be a yellow legend on a black background or the reverse of these colors.*

**Support:**

<sup>21</sup> Advisory Speed signs and plaques are discussed in Sections 2C.08 and 2C.14. Temporary Traffic Control Zone Speed signs are discussed in Part 6. The WORK ZONE (G20-5aP) plaque intended for installation above a Speed Limit sign is discussed in Section 6F.12. School Speed Limit signs are discussed in Section 7B.15.

<sup>22</sup> Speed limits in California are governed by the California Vehicle Code (CVC), Sections 22348 through 22413; also, pertinent sections are found in Sections 627 and 40802 and others referenced in this section. See Section 1A.11 for information regarding this publication.

<sup>23</sup> Refer to Part 6, Section 6C.01 for speed limit signs in temporary traffic control zones. Refer to Part 7 for speed limit signs in school areas.

### **Engineering and Traffic Survey (E&TS)**

Support:

<sup>24</sup> CVC Section 627 defines the term "Engineering and traffic survey" and lists its requirements.

**Standard:**

<sup>25</sup> **An engineering and traffic survey (E&TS) shall include, among other requirements deemed necessary by Caltrans, consideration of all of the following:**

- A. Prevailing speeds as determined by traffic engineering measurements.**
- B. Collision records.**
- C. Highway, traffic, and roadside conditions not readily apparent to the driver.**

*Guidance:*

<sup>26</sup> *The E&TS should contain sufficient information to document that the required three items of CVC Section 627 are provided and that other conditions not readily apparent to a driver are properly identified.*

<sup>27</sup> *Prevailing speeds are determined by a speed zone survey. A speed zone survey should include:*

- A. The intent of the speed measurements is to determine the actual speed of unimpeded traffic. The speed of traffic should not be altered by concentrated law enforcement, or other means, just prior to, or while taking the speed measurements.*
- B. Only one person is required for the field work. Speeds should be read directly from a radar or other electronic speed measuring devices; or,*
- C. Devices, other than radar, capable of accurately distinguishing and measuring the unimpeded speed of free flowing vehicles may be used.*
- D. A location should be selected where prevailing speeds are representative of the entire speed zone section. If speeds vary on a given route, more than one speed zone section may be required, with separate measurements for each section. Locations for measurements should be chosen so as to minimize the effects of traffic signals or stop signs.*
- E. Speed measurements should be taken during off-peak hours between peak traffic periods on weekdays. If there is difficulty in obtaining the desired quantity, speed measurements may be taken during any period with free flowing traffic.*
- F. The weather should be fair (dry pavement) with no unusual conditions prevailing.*
- G. The surveyor and equipment should not affect the traffic speeds. For this reason, an unmarked car is recommended, and the radar speed meter located as inconspicuously as possible.*
- H. In order for the sample to be representative of the actual traffic flow, the minimum sample should be 100 vehicles in each survey. In no case should the sample contain less than 50 vehicles.*
- I. Short speed zones of less than 0.5 miles should be avoided, except in transition areas.*
- J. Speed zone changes should be coordinated with changes in roadway conditions or roadside development.*
- K. Speed zoning should be in 10 mph increments except in urban areas where 5 mph increments are preferable.*
- L. Speed zoning should be coordinated with adjacent jurisdictions.*

Support:

<sup>28</sup> Physical conditions such as width, curvature, grade and surface conditions, or any other condition readily apparent to the driver, in the absence of other factors, would not require special downward speed zoning. Refer to CVC 22358.5.

Option:

<sup>29</sup> When qualifying an appropriate speed limit, local authorities may also consider all of the following findings:

- A. Residential density, if any of the following conditions exist on the particular portion of highway and the property contiguous thereto, other than a business district:
  - 1. Upon one side of the highway, within 0.25 miles, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures.
  - 2. Upon both sides of the highway, collectively, within a distance of 0.25 miles the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures.

3. The portion of highway is larger than 0.25 miles but has the ratio of separate dwelling houses or business structures to the length of the highway described in either subparagraph 1 or 2 above.

B. Pedestrian and bicyclist safety.

<sup>30</sup> The following two methods of conducting E&TS may be used to establish speed limits:

1. State Highways - The E&TS for State highways is made under the direction of the Caltrans District Traffic Engineer. The data includes:
  - a. One copy of the Example of Speed Zone Survey Sheet (See Figure 2B-101(CA)) showing:
    - A north arrow
    - Engineer's station or post mileage
    - Limits of the proposed zones
    - Appropriate notations showing type of roadside development, such as "scattered business," "solid residential," etc. Schools adjacent to the highway are shown, but other buildings need not be plotted unless they are a factor in the speed recommendation or the point of termination of a speed zone.
    - Collision rates for the zones involved
    - Average daily traffic volume
    - Location of traffic signals, signs and markings
    - If the highway is divided, the limits of zones for each direction of travel
    - Plotted 85<sup>th</sup> percentile and pace speeds at location taken showing speed profile
  - b. A report to the District Director that includes:
    - The reason for the initiation of speed zone survey.
    - Recommendations and supporting reasons.
    - The enforcement jurisdictions involved and the recommendations and opinions of those officials.
    - The stationing or reference post in mileage at the beginning and ending of each proposed zone and any intermediate equations. Location ties must be given to readily identifiable physical features.
2. City and County Through Highways, Arterials, Collector Roads and Local Streets.
  - a. The short method of speed zoning is based on the premise that a reasonable speed limit is one that conforms to the actual behavior of the majority of motorists, and that by measuring motorists' 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, superelevation, shoulder conditions, profile conditions, intersection spacing and offsets, commercial driveway characteristics, and pedestrian traffic in the roadway without sidewalks.
  - b. Determination of Existing Speed Limits - Figures 2B-103(CA) & 2B-104(CA) show examples of data sheets which may be used to record speed observations. Specific types of vehicles may be tallied by use of letter symbols in appropriate squares.

<sup>31</sup> In most situations, the short form for local streets and roads will be adequate; however, the procedure used on State highways may be used at the option of the local agency.

*Guidance:*

<sup>32</sup> *The factors justifying a reduction below the 85<sup>th</sup> percentile speed for the posted speed limit are the same factors mentioned above. Whenever such factors are considered to establish the speed limit, they should be documented on the speed zone survey or the accompanying engineering report.*

<sup>33</sup> *The establishment of a speed limit of more than 5 mph below the 85<sup>th</sup> percentile speed should be done with great care as studies have shown that establishing a speed limit at less than the 85<sup>th</sup> percentile generally results in an increase in collision rates; in addition, this may make violators of a disproportionate number of the reasonable majority of drivers.*

*Support:*

<sup>34</sup> Generally, the most decisive evidence of conditions not readily apparent to the driver surfaces in collision histories.

<sup>35</sup> Speed limits are established at or near the 85<sup>th</sup> percentile speed, which is defined as that speed at or below which 85<sup>th</sup> percent of the traffic is moving. The 85<sup>th</sup> percentile speed is often referred to as the critical speed. Pace speed is defined as the 10 mph increment of speed containing the largest number of vehicles (See Figure 2B-102(CA)). The lower limit of the pace is plotted on the Speed Zone Survey Sheets as an aid in determining the proper zone limits. Speed limits higher than the 85<sup>th</sup>

percentile are not generally considered reasonable and prudent. Speed limits below the 85<sup>th</sup> percentile do not ordinarily facilitate the orderly movement of traffic and require constant enforcement to maintain compliance. Speed limits established on the basis of the 85<sup>th</sup> percentile conform to the consensus of those who drive highways as to what speed is reasonable and prudent, and are not dependent on the judgment of one or a few individuals.

<sup>36</sup> The majority of drivers comply with the basic speed law. Speed limits set at or near the 85<sup>th</sup> percentile speed provide law enforcement officers with a limit to cite drivers who will not conform to what the majority considers reasonable and prudent. Further studies show that establishing a speed limit at less than the 85<sup>th</sup> percentile (Critical Speed) generally results in an increase in collision rates.

Option:

<sup>37</sup> When roadside development results in traffic conflicts and unusual conditions which are not readily apparent to drivers, as indicated in collision records, speed limits somewhat below the 85<sup>th</sup> percentile may be justified. Concurrence and support of enforcement officials are necessary for the successful operation of a restricted speed zone.

*Guidance:*

<sup>38</sup> *Speed zones of less than 0.5 miles and short transition zones should be avoided.*

## **Signs**

**Standard:**

<sup>39</sup> **The Speed Limit (R2-1) sign shall be used to give notice of a prima facie or maximum speed limit except as provided under Prima Facie Speed Limits in CVC 22352.**

<sup>40</sup> **When used, the TRUCKS, 3 AXLES OR MORE 55 MAXIMUM (R6-3(CA)) sign shall be installed approximately 750 feet following each R2-1 sign.**

<sup>41</sup> **The ALL VEHICLES WHEN TOWING 55 MAXIMUM (R6-4(CA)) sign shall be installed approximately 750 feet following the R6-3(CA) sign.**

*Guidance:*

<sup>42</sup> *The R6-3(CA) and R6-4(CA) signs should be placed on highway segments where speeds in excess of 55 mph are permitted.*

Option:

<sup>43</sup> The existing AUTOS WITH TRAILERS, TRUCKS 55 MAXIMUM (R6-1(CA)) sign may remain in place until it is knocked down, damaged, stolen, vandalized, or otherwise reaches the end of its useful life.

<sup>44</sup> The local California Highway Patrol office may be consulted to identify highway segments where enforcement is an issue. On these segments early replacement of existing R6-1(CA) signs may be necessary.

Support:

<sup>45</sup> Refer to CVC Section 22406 for types of vehicles subject to the 55 mph maximum speed limit.

Option:

<sup>46</sup> The Speed Zone Ahead (R2-4(CA)) sign (see Figure 2B-3(CA)) may be used to inform the motorist of a reduced speed zone.

**Standard:**

<sup>47</sup> **The R2-4(CA) sign shall always be followed by a Speed Limit (R2-1) sign installed at the beginning of the zone where the reduced speed limit applies.**

<sup>48</sup> **The End Speed Limit (R3(CA)) sign shall only be used to mark the end of a speed zone.**

<sup>49</sup> **The R3(CA) sign shall not be used at a transition into a change in speed limits within a reduced zone.**

Option:

<sup>50</sup> The R3(CA) sign (see Figure 2B-3(CA)) may be used with the TRUCK (M4-4) plaque to mark the end of truck speed zones on descending grades.

**Standard:**

<sup>51</sup> **Speed limit signs shall be placed at the beginning of all restricted speed zones.**

Option:

<sup>52</sup> Where speed zones are longer than 1 mile, intermediate signs may be placed at approximate 1 mile intervals. For three or more lanes in each direction, dual installation may be used.

**Standard:**

<sup>53</sup> **The Speed Limit (R2-1) and End Speed Limit (R3(CA)) signs, as appropriate shall be placed at the end of all restricted speed zones.**

<sup>54</sup> **Freeways with 65 mph and those segments where a speed limit of 70 mph has been approved by Caltrans, with approval by the California Highway Patrol, shall be posted as follows:**

- **At the segment entrance, R2-1 signs shall be installed right of traffic off of the right shoulder.**
- **R2-1 signs shall also be installed off of the right shoulder only, throughout the segment, at a maximum of 25 mile intervals.**

Option:

- **The 25 mile interval may be modified to include locations following entrance ramps.**

**Standard:**

- **The R6-3(CA) sign (see Figure 2B-3(CA)) shall be installed approximately 750 feet following each R2-1 sign, both at the beginning and throughout each 60, 65 or 70 mph segment.**
- **The R6-4(CA) sign (see Figure 2B-3(CA)) shall be installed approximately 750 feet following each R6-3(CA) sign.**

Option:

- **The SLOWER TRAFFIC KEEP RIGHT (R4-3) signs may be installed at locations where there is a tendency of the motorists to drive in the left-hand lane(s) below the normal speed of traffic.**

**Standard:**

- **Signs shall be placed in protected locations.**
- **At the end of the 70/65 mph segment, R2-1 signs shall be installed off of the right shoulder.**

<sup>55</sup> **Freeway segments where a 55 mph speed limit has been approved by Caltrans, with the approval of the California Highway Patrol, shall be posted as follows:**

- **The beginning of the segment shall be posted with an R2-1 sign installed on the right shoulder and left shoulder where the median is of sufficient width to permit sign maintenance without lane closures.**

Guidance:

- *Subsequent signs should then be posted on the right shoulder, on approximate 3 mile intervals, with no more than 3 interchanges between signs.*
- *At the end of the segment, an R2-1 sign with the appropriate number for the next speed limit should be posted on the right shoulder.*

<sup>56</sup> *Conventional highways with 55 mph speed limits should be posted as follows:*

**Standard:**

- **The beginning of the segment shall be posted with an R2-1 sign installed on the right shoulder.**

Guidance:

- *Subsequent signs should then be posted on approximate 5 to 10 mile intervals and immediately after locations where significant volumes of traffic enter the segment.*
- *At the end of the segment, an R2-1 sign with the appropriate number for the next speed limit should be posted on the right shoulder.*

*Conventional highways with 65 mph speed limits should be posted as follows:*

- *The beginning of the segment should be posted with an R2-1 sign installed on the right shoulder.*
- *Subsequent signs should then be posted at 5 to 10 mile intervals and after locations where significant volumes of traffic enter the segment.*
- *At the end of the segment, an R2-1 sign with the appropriate number for the next speed limit should be posted on the right shoulder.*

Option:

<sup>57</sup> *Pavement markings with appropriate numerals (see Section 3B.21) may be used to supplement speed limit signs.*

**Standard:**

<sup>58</sup> **The R2-1 and R6-3(CA) and R6-4(CA) signs giving maximum statewide speed limits for various types of vehicles shall be installed on all State highways near the points of entrance into California.**

*Guidance:*

<sup>59</sup> *The R2-1 and R6-3(CA) and R6-4(CA) signs should be placed in a location to be most effectively viewed by the approaching motorists.*

**Standard:**

<sup>60</sup> **Speed Limit (R2-1) signs shall be installed throughout segments of freeway with posted speed limits of 65 mph or 70 mph at a maximum of 25 mile intervals.**

*Option:*

<sup>61</sup> The 25 mile interval may be modified to include locations following entrance ramps.

**Standard:**

<sup>62</sup> **Speed Limit (R2-1) signs shall be installed throughout segments of conventional highways with a posted speed limit of 65 mph at 5 mile to 10 mile intervals.**

<sup>63</sup> **Speed Limit (R2-1) signs shall be installed throughout segments of freeway with a posted speed limit of 55 mph at approximately 3 mile intervals with no more than 3 interchanges between signs.**

<sup>64</sup> **Speed Limit (R2-1) signs shall be installed throughout segments of conventional highways with a posted speed limit of 55 mph at 5 mile to 10 mile intervals.**

**Speed Enforced Signs**

*Option:*

<sup>65</sup> The SPEED ENFORCED BY RADAR (R48(CA)) sign (see Figure 2B-3(CA)) may be used where the California Highway Patrol has received authority to use radar and requests such signs.

*Guidance:*

<sup>66</sup> *One sign should be used in each direction at the beginning of the segment of roadway, and at intervening major route intersections, where radar enforcement is in effect.*

*Support:*

<sup>67</sup> The R48(CA) sign is a stand-alone sign intended to alert motorists that speed is enforced by radar on a particular segment of roadway.

*Option:*

<sup>68</sup> The RADAR ENFORCED (R48-1(CA)) sign (see Figure 2B-3(CA)) may be used in combination with the Speed Limit (R2-1) sign on any roadway where law enforcement has the authority to use radar.

*Guidance:*

<sup>69</sup> *When used, the R48-1(CA) sign should be placed below the R2-1 sign, at the beginning of the segment of roadway and at intervening major intersections, where radar enforcement is in effect.*

*Option:*

<sup>70</sup> The SPEED ENFORCED BY AIRCRAFT (R48-2(CA)) sign (see Figure 2B-3(CA)) may be placed, when requested by the California Highway Patrol, on sections of highway regularly patrolled by aircraft.

**Standard:**

<sup>71</sup> **The R48-2(CA) sign shall be used for both directions of travel.**

*Guidance:*

<sup>72</sup> *The R48-2(CA) sign should be placed at the beginning of the section and spaced at 25 mile intervals. See Figure 3B-105(CA).*

**Vehicle Speed Feedback Signs**

*Option:*

<sup>73</sup> A Vehicle Speed Feedback sign that displays to approaching drivers the speed at which they are traveling may be installed in conjunction with a Speed Limit (R2-1) sign.

**Standard:**

<sup>74</sup> **If a Vehicle Speed Feedback sign displaying approach speeds is installed, the legend shall be YOUR SPEED XX. The numerals displaying the speed shall be white, yellow, yellow-green or amber color on black background. When activated, lights shall be steady-burn conforming to the provisions of CVC Sections 21466 and 21466.5. Vehicle Speed Feedback signs shall not alternatively be operated as variable speed limit signs.**

*Guidance:*

75 *To the degree practical, numerals for displaying approach speeds should be similar font and size as numerals on the corresponding Speed Limit (R2-1) sign.*

*Option:*

76 When used, the Vehicle Speed Feedback sign may be mounted on either a separate support or on the same support as the Speed Limit (R2-1) sign.

77 In lieu of lights, legend may be retroreflective film for flip-disk systems.

78 The legend YOUR SPEED may be white on black plaque located above the changeable speed display.

*Support:*

79 Driver comprehension may improve when the Vehicle Speed Feedback Sign is mounted on the same support below the Speed Limit (R2-1) sign.

80 Vehicle Speed Feedback Signs are appropriate for use with advisory speed signs and with temporary signs in temporary traffic control zones.

**Basic Speed Law and Prima Facie Speed Limits – See CVC 22350 & 22352**

*Support:*

81 The basic speed law states “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.”

**Standard:**

82 **Prima facie speed limits are specific limits and shall apply unless changed based upon an engineering and traffic survey (E&TS) and signs are posted that display the new speed limit.**

*Option:*

83 Prima facie speed limits may be preempted by the basic speed law, when roadway, traffic or weather conditions warrant a lower speed.

**Use of Metric System Designations – See CVC 21351.3**

*Option:*

84 Dual units for speed limits on signs may be placed on local streets and roads in both Metric and English units.

*Guidance:*

85 *If used, dual unit speed limits should be rounded to the nearest 10 km/h for Metric and 5 mph for English units for posting on signs on local streets and roads.*

*Support:*

86 Refer to AASHTO's Traffic Engineering Metric Conversion Factors. See Section 1A.11 for information regarding this publication.

**Standard:**

87 **Metric speed limits shall not be placed on State highways. For use in this California MUTCD, 70 mph shall be shown as a metric equivalent of 110 km/h, neither of which shall be used on any local street or road.**

**Legal Authority for Establishing Speed Limits**

*Support:*

88 Delegation of legal authority to set speed limits on State highways is given to Caltrans District Directors. The District Director of each transportation district is authorized to issue orders regulating the speed of traffic, up to 65 mph on State highways. The Director of Caltrans retains the authority to approve variable, minimum, and maximum speeds up to 70 mph on State freeways.

**Standard:**

89 **The speed limits shown in Table 2B-101(CA) shall apply, unless changed upon the basis of an engineering and traffic survey (E&TS).**

*Option:*

90 The speed limits shown in Table 2B-102(CA) may apply, unless changed upon E&TS.

### **Variable Speed Limits on Freeways - See CVC 22355**

Option:

<sup>91</sup> The following speed limits may apply:

- Whenever Caltrans determines based upon an engineering and traffic survey (E&TS) that the safe and orderly movement of traffic upon any freeway segment will be facilitated by the establishment of variable speed limits.
- Caltrans may erect, regulate, and control signs upon the state highway which is a freeway, or any portion thereof, which, if used, signs shall be designed to permit display of different speeds at various times of the day or night.
- Such signs need not conform to the standards & specifications per CVC 21400, but if used, shall be of sufficient size and clarity to give adequate notice of the applicable speed limit.

### **Minimum Speed Limits on State Highways - See CVC 22400**

Option:

<sup>92</sup> The following speed limits may apply:

- Whenever Caltrans determines based upon an engineering and traffic survey (E&TS) that slow speeds on any part of a state highway consistently impede the normal and reasonable movement of traffic, Caltrans may determine and declare a minimum speed limit. Appropriate signs giving notice shall then be installed on that segment.
- A motorist can be cited for stopping or impeding the normal and reasonable movement of traffic unless the stop is necessary for safe operation and in compliance with the law.

### **Speed Traps**

Support:

<sup>93</sup> Refer to CVC 40802 for Speed Traps.

**Standard:**

<sup>94</sup> **A speed trap shall not apply to a local street, road, or school zone.**

<sup>95</sup> **A section of highway shall be defined as a speed trap if the prima facie speed limit is not justified by an engineering and traffic survey (E&TS) within five years, and the enforcement of the speed limit involves the use of radar or any other electronic device that measures the speed of moving objects.**

<sup>96</sup> **This time provision shall be extended to seven years when using radar and all of the following criteria are met:**

- **The arresting officer has successfully completed a minimum of 24 hours of certified radar operator course training.**
- **The radar used to measure the speed meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration, and has been calibrated within three years of the alleged violation.**

<sup>97</sup> **This time provision shall be extended to seven years when using laser or other electronic device (other than radar) and all of the following criteria are met:**

- **The arresting officer has successfully completed a minimum of 24 hours of certified radar operator course training.**
- **The arresting officer has successfully completed a minimum of 2 hours of additional approved certified training.**
- **The radar used to measure the speed meets or exceeds the minimal operational standards of the National Traffic Highway Safety Administration, and has been calibrated within three years of the alleged violation.**

Option:

<sup>98</sup> This time provision for an E&TS may be extended to ten years when all of the above conditions are met and no significant changes in roadway or traffic conditions have occurred, including changes in adjoining property or land use, roadway width, or traffic volume as determined by a registered engineer.

### **Truck Speed Zone on Descending Grades**

*Guidance:*

<sup>99</sup> *Highway descending grades, if used for posting TRUCK Speed Limit signs (R2-1 and M4-4) for trucks travelling downhill, should have recorded incident history of runaway commercial vehicles. Descending grades shorter than 1 mile should be avoided for posting signs because deceleration of vehicles due to braking action can generally provide sufficient control on descending grades of less than 1 mile.*

Support:

<sup>100</sup> To establish a downhill truck speed limit, a physical profile showing length and gradient and a downhill speed profile for three or more axle commercial vehicles with a gross rating of 10,000 lbs. or more will be provided.

**Standard:**

<sup>101</sup> **Speed profiles for truck speed limits shall be prepared on the same form as other speed surveys. An analysis of collisions involving trucks shall be prepared.**

*Guidance:*

<sup>102</sup> *Posted speeds should be on the low side of the scale, generally within the pace of loaded commercial vehicles.*

**Standard:**

<sup>103</sup> **If warranted, the Caltrans District Director shall issue a standard speed zone order.**

Support:

<sup>104</sup> Posting of the regulation will be by placement of a standard 36 x 45 inch Speed Limit (R2-1) sign with a TRUCK (M4-4) plate above.

**Standard:**

<sup>105</sup> **A standard End Speed Limit (R3(CA)) sign with TRUCK (M4-4) plate shall be posted at the end of the truck zone when appropriate.**

**Speed Zones in Temporary Traffic Control Areas**

Support:

<sup>106</sup> For signing and establishing speed zones in temporary traffic control areas, refer to Section 6C.01 in Part 6.

**Section 2B.14 Truck Speed Limit Plaque (R2-2P)**

**Standard:**

<sup>01</sup> **Where a special speed limit applies to trucks or other vehicles, the legend TRUCKS XX or such similar legend shall be displayed below the legend Speed Limit XX on the same sign ~~or on a separate R2-2P plaque (see Figure 2B-3) below the standard legend.~~**

<sup>02</sup> **The Truck Speed Limit (R2-2) sign shall not be used in California. The TRUCK (M4-4) plaque placed above the Speed Limit (R2-1) sign shall be used instead.**

<sup>03</sup> **The TRUCK (M4-4) plaque shall be placed above the Speed Limit (R2-1) sign to indicate the truck speed limit. It shall also be placed above the End Speed Limit (R3(CA)) sign to mark the end of truck speed limits.**

Support:

<sup>04</sup> Refer to Section 2B.13 for more details.

**Section 2B.15 Night Speed Limit Plaque (R2-3P)**

**Standard:**

<sup>01</sup> **Where different speed limits are prescribed for day and night, both limits shall be posted.**

*Guidance:*

<sup>02</sup> *A Night Speed Limit (R2-3P) plaque (see Figure 2B-3) should be reversed using a white retroreflectorized legend and border on a black background.*

**Option:**

<sup>03</sup> **A Night Speed Limit plaque may be combined with or installed below the standard Speed Limit (R2-1) sign.**

Support:

<sup>04</sup> Refer to CVC 22355.

**Section 2B.16 Minimum Speed Limit Plaque (R2-4P)**

**Standard:**

<sup>01</sup> **A Minimum Speed Limit (R2-4P) plaque (see Figure 2B-3) shall be displayed only in combination with a Speed Limit sign.**

**Option:**

<sup>02</sup> **Where engineering judgment determines that slow speeds on a highway might impede the normal and reasonable movement of traffic, the Minimum Speed Limit plaque may be installed below a Speed Limit (R2-1)**

sign to indicate the minimum legal speed. If desired, the Speed Limit sign and the Minimum Speed Limit plaque may be combined on the R2-4a sign (see Figure 2B-3).

Support:

<sup>03</sup> Refer to CVC 22400.

### **Section 2B.17 Higher Fines Signs and Plaque (R2-6P, R2-10, and R2-11)**

**Standard:**

<sup>01</sup> **If increased fines are imposed for traffic violations within a designated zone of a roadway, a BEGIN ~~HIGHER~~ DOUBLE FINES ZONE (R2-10) sign (see Figure 2B-3) or a FINES ~~HIGHER~~ DOUBLE (R2-6P) plaque (see Figure 2B-3) shall be used to provide notice to road users. If used, the FINES ~~HIGHER~~ DOUBLE plaque shall be mounted below an applicable regulatory or warning sign in a temporary traffic control zone, a school zone, or other applicable designated zone.**

<sup>02</sup> **If an R2-10 sign or an R2-6P plaque is posted to provide notice of increased fines for traffic violations, an END ~~HIGHER~~ DOUBLE FINES ZONE (R2-11) sign (see Figure 2B-3) shall be installed at the downstream end of the zone to provide notice to road users of the termination of the increased fines zone.**

*Guidance:*

<sup>03</sup> *If used, the BEGIN ~~HIGHER~~ DOUBLE FINES ZONE sign or FINES ~~HIGHER~~ DOUBLE plaque should be located at the beginning of the temporary traffic control zone, school zone, or other applicable designated zone and just beyond any interchanges, major intersections, or other major traffic generators.*

**Standard:**

<sup>04</sup> **The ~~Higher~~ Double Fines signs and plaque shall have a black legend and border on a white rectangular background. All supplemental plaques mounted below the ~~Higher~~ Double Fines signs and plaque shall have a black legend and border on a white rectangular background.**

*Guidance:*

<sup>05</sup> *Agencies should limit the use of the ~~Higher~~ Double Fines signs and plaque to locations where work is actually underway, or to locations where the roadway, shoulder, or other conditions, including the presence of a school zone and/or a reduced school speed limit zone, require a speed reduction or extra caution on the part of the road user.*

**Option:**

<sup>06</sup> **Alternate legends such as BEGIN (or END) DOUBLE FINES ZONE may also be used for the R2-10 and R2-11 signs.**

<sup>07</sup> **The legend FINES HIGHER on the R2-6P plaque may be replaced by FINES DOUBLE (R2-6aP), \$XX FINE (R2-6bP), or another legend appropriate to the specific regulation (see Figure 2B-3).**

<sup>08</sup> **The following may be mounted below an R2-10 sign or R2-6P plaque:**

**A. A supplemental plaque specifying the times that the higher fines are in effect (similar to the S4-1P plaque shown in Figure 7B-1), or**

**B. A supplemental plaque ~~WHEN CHILDREN (WORKERS) ARE PRESENT~~, or**

**C. A supplemental plaque ~~WHEN FLASHING~~ (similar to the S4-4P plaque shown in Figure 7B-1) if used in conjunction with a yellow flashing beacon.**

**Support:**

<sup>09</sup> **Section 6F.12 contains information regarding other signs and plaques associated with increased fines for traffic violations in temporary traffic control zones. ~~Section 7B.10 contains information regarding other signs and plaques associated with increased fines for traffic violations in designated school zones.~~**

<sup>10</sup> **In California, as per CVC only doubling of the fines is allowed, not higher fines of other denominations. Refer to Section 6F.12 and CVC 42009 for fines for offenses committed in highway construction or maintenance area.**

**Standard:**

<sup>11</sup> **The SPECIAL DRIVING ZONE BEGINS HERE – DOUBLE FINE ZONE (SR53(CA)) sign (see Figure 2B-3(CA)) shall be placed at the beginning of those portions of highways designated and identified as Safety Enhancement – Double Fine Zones per CVC 42010.**

<sup>12</sup> **The SPECIAL DRIVING ZONE ENDS HERE (SR55(CA)) sign (see Figure 2B-3(CA)) shall be placed at the end of those portions of highways designated and identified as Safety Enhancement – Double Fine Zones per CVC 42010.**

*Guidance:*

<sup>13</sup> The DOUBLE FINE ZONE (SR54(CA)) sign (see Figure 2B-3(CA)) should be placed at major intersections to those portions of highways designated and identified as Safety Enhancement – Double Fine Zone, per CVC 42010, to advise motorists upon entering the highway that they are in a double fine zone.

## **Section 2B.18 Movement Prohibition Signs (R3-1 through R3-4, R3-18, and R3-27)**

**Standard:**

<sup>01</sup> ~~Except as provided in Paragraphs 11 and 13, where specific movements are prohibited, Movement Prohibition signs shall be installed.~~

*Guidance:*

<sup>02</sup> ~~Movement Prohibition signs should be placed where they will be most easily seen by road users who might be intending to make the movement.~~

<sup>03</sup> ~~If No Right Turn (R3-1) signs (see Figure 2B-4) are used, at least one should be placed either over the roadway or at a right hand corner of the intersection.~~

<sup>04</sup> ~~If No Left Turn (R3-2) signs (see Figure 2B-4) are used, at least one should be placed over the roadway, at the far left hand corner of the intersection, on a median, or in conjunction with the STOP sign or YIELD sign located on the near right hand corner.~~

<sup>05</sup> ~~Except as provided in Item C of Paragraph 9 for signalized locations, if NO TURNS (R3-3) signs (see Figure 2B-4) are used, two signs should be used, one at a location specified for a No Right Turn sign and one at a location specified for a No Left Turn sign.~~

<sup>06</sup> ~~If No U Turn (R3-4) signs (see Figure 2B-4) or combination No U Turn/No Left Turn (R3-18) signs (see Figure 2B-4) are used, at least one should be used at a location specified for No Left Turn signs.~~

**Option:**

<sup>07</sup> ~~If both left turns and U turns are prohibited, the combination No U Turn/No Left Turn (R3-18) sign (see Figure 2B-4) may be used instead of separate R3-2 and R3-4 signs.~~

*Guidance:*

<sup>08</sup> ~~If No Straight Through (R3-27) signs (see Figure 2B-4) are used, at least one should be placed either over the roadway or at a location where it can be seen by road users who might be intending to travel straight through the intersection.~~

<sup>09</sup> ~~If turn prohibition signs are installed in conjunction with traffic control signals:~~

*A. The No Right Turn sign should be installed adjacent to a signal face viewed by road users in the right hand lane.*

*B. The No Left Turn (or No U Turn or combination No U Turn/No Left Turn) sign should be installed adjacent to a signal face viewed by road users in the left hand lane.*

*C. A NO TURNS sign should be placed adjacent to a signal face viewed by all road users on that approach, or two signs should be used.*

**Option:**

<sup>10</sup> ~~If turn prohibition signs are installed in conjunction with traffic control signals, an additional Movement Prohibition sign may be post mounted to supplement the sign mounted overhead.~~

<sup>11</sup> ~~Where ONE WAY signs are used (see Section 2B.40), No Left Turn and No Right Turn signs may be omitted.~~

<sup>12</sup> ~~When the movement restriction applies during certain time periods only, the following Movement Prohibition signing alternatives may be used and are listed in order of preference:~~

*A. Changeable message signs, especially at signalized intersections.*

*B. Permanently mounted signs incorporating a supplementary legend showing the hours and days during which the prohibition is applicable.*

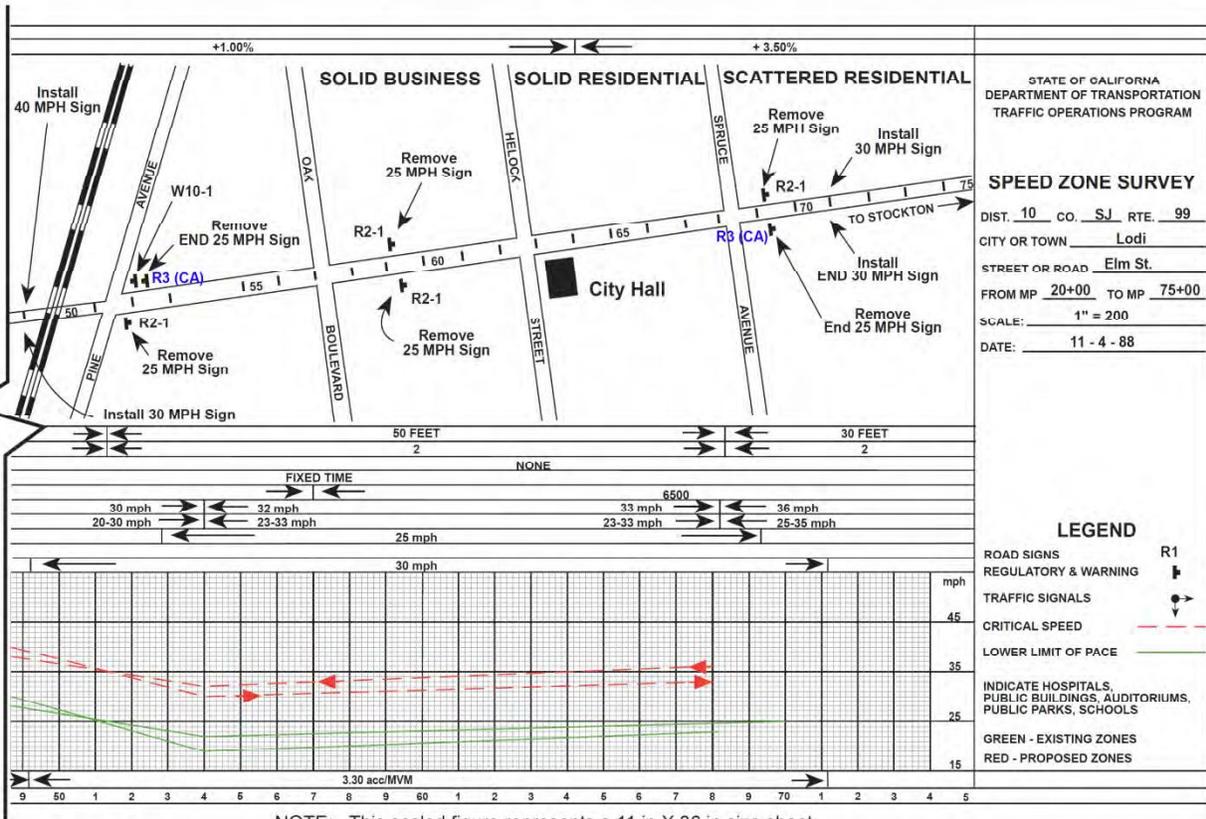
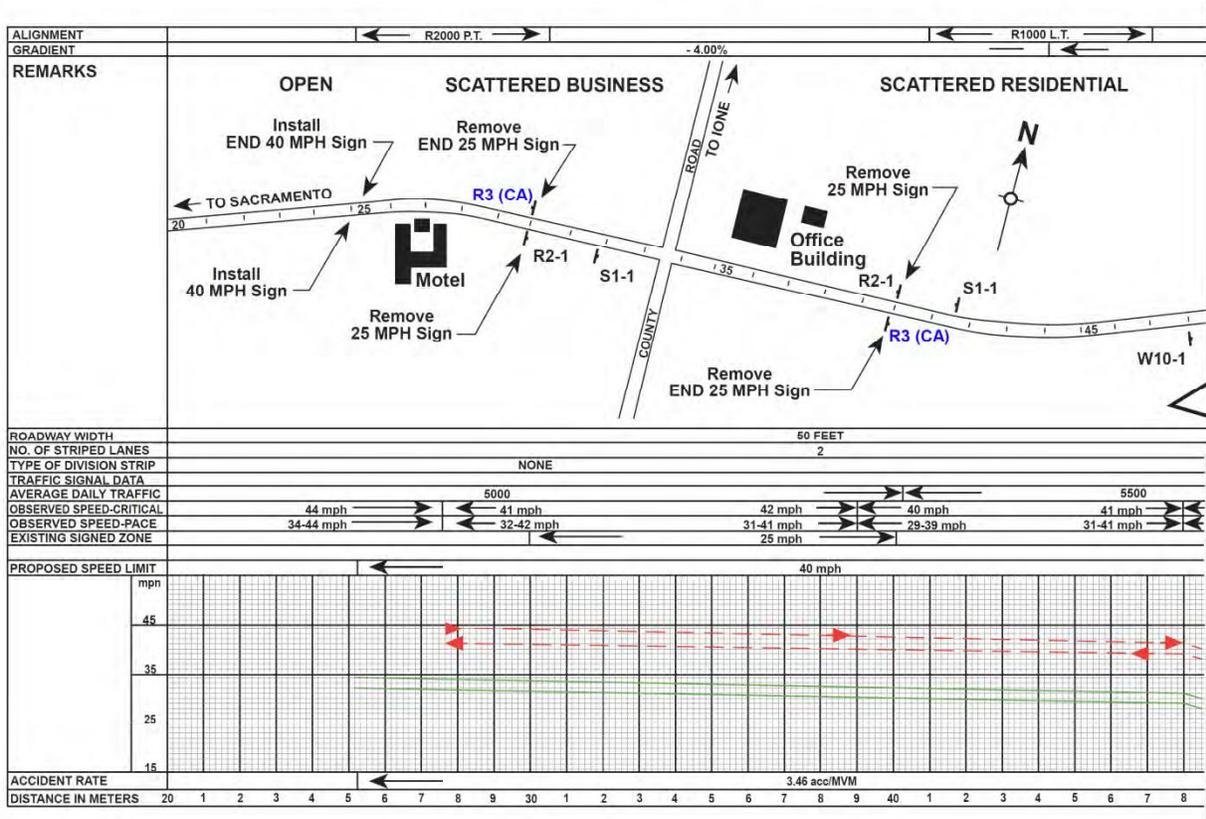
*C. Portable signs, installed by proper authority, located off the roadway at each corner of the intersection. The portable signs are only to be used during the time that the movement prohibition is applicable.*

<sup>13</sup> ~~Movement Prohibition signs may be omitted at a ramp entrance to an expressway or a channelized intersection where the design is such as to indicate clearly the one-way traffic movement on the ramp or turning lane.~~

**Support:**

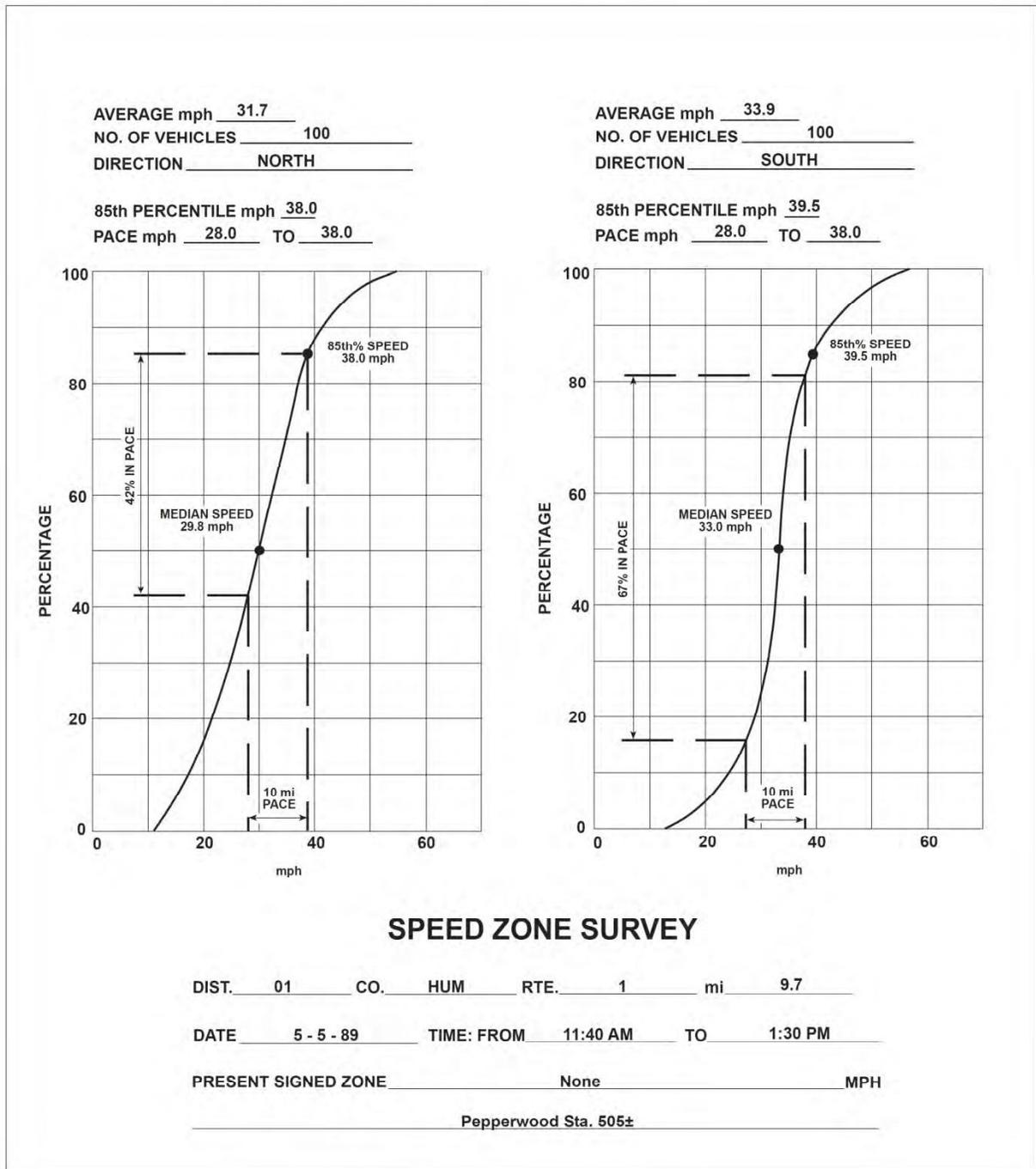
<sup>13a</sup> Motorists can make a semicircular or U-turn on a green signal or green arrow except where such turn is prohibited by signs. Refer to CVC 21451 and 21454.

**Figure 2B-101 (CA). Example of Speed Zone Survey Sheet**



NOTE: This scaled figure represents a 11 in X 36 in size sheet.

**Figure 2B-102 (CA). Example of Cumulative Speed Curve Sheet**



**Figure 2B-103 (CA). Example of Vehicle Speed Survey Sheet for City and County Through Highways, Arterials, and Collector Roads**

Jurisdiction \_\_\_\_\_ Date \_\_\_\_\_  
 Location \_\_\_\_\_ Weather \_\_\_\_\_  
 Recorder \_\_\_\_\_ Begin Time \_\_\_\_\_ End Time \_\_\_\_\_

mph	NUMBER OF VEHICLES						PERCENT OF TOTAL	CUMULATIVE PERCENTAGE
	5	10	15	20	25	30		
65								
60								
55								
50								
45								
40								
35								
30	X	X	X				1	100
29	X	X	X				5	99
28	X	X	X				4	94
27	X	X	X				7	91
26	X	X	X				7	83
25	X	X	X	X			12	76
24	X	X	X	X			8	64
23	X	X	X	X			8	55
22	X	X	X	X			13	47
21	X	X	X	X			10	34
20	X	X	X	X			7	23
19	X	X	X	X			8	17
18	X	X	X	X			1	8
17	X	X	X	X			5	7
16	X	X	X	X			1	3
15	X	X	X	X			1	2
							1	1
TOTAL NUMBER OF VEHICLES = <u>107</u>							100 %	

Other Considerations \_\_\_\_\_  
 Accident History : \_\_\_\_\_  
 Unusual Conditions : \_\_\_\_\_

Signed \_\_\_\_\_ Date \_\_\_\_\_ Title \_\_\_\_\_

**Figure 2B-104 (CA). Example of Vehicle Speed Survey Sheet (For 40 MPH and Under)**

Jurisdiction : \_\_\_\_\_

Residential Area or Subdivision : \_\_\_\_\_

<b>VEHICLE SPEED DATA</b>		
Location : _____		Weather : _____
Record : _____		Date : _____
		Begin Time : _____
		End Time : _____
mph	NUMBER OF VEHICLES	TOTAL OF EACH SPEED
40 & over		
35		
30	X	1
	X	1
	X	2
	X	3
	X	5
25	X	11
	X	7
	X	6
	X	6
	X	4
20	X	3
	X	2
	X	1
	X	0
	X	1
15 & under	X	1
mph	<b>TOTAL NUMBER OF VEHICLES OBSERVED</b>	<b>54</b>

**CRITICAL SPEED CALCULATION**

Total 54 multiplied by 0.15 = 8  
 Count this number of vehicles down from the highest speed observed to determine the critical speed

← **CRITICAL SPEED = 26 mph**

Other Considerations : \_\_\_\_\_

Accident History : \_\_\_\_\_

Unusual Conditions : \_\_\_\_\_

Date : \_\_\_\_\_ Signed : \_\_\_\_\_ Title : \_\_\_\_\_

## **Attachment A – Standard Agreement**

## AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is made and entered into this \_\_\_\_ day of \_\_\_\_\_, 201\_, by and between the City of Merced, a California Charter Municipal Corporation, whose address of record is 678 West 18<sup>th</sup> Street, Merced, California 95340, (hereinafter referred to as "City") and \_\_\_\_\_, a \_\_\_\_\_, whose address of record is \_\_\_\_\_ (hereinafter referred to as "Consultant").

WHEREAS, City is undertaking a project to \_\_\_\_\_; and,

WHEREAS, Consultant represents that it possesses the professional skills to provide \_\_\_\_\_ services in connection with said project.

NOW, THEREFORE, the parties hereto, in consideration of the mutual covenants hereinafter recited, hereby agree as follows:

1. **SCOPE OF SERVICES.** The Consultant shall furnish the following services: Consultant shall provide the \_\_\_\_\_ services described in Exhibit "A" attached hereto.

No additional services shall be performed by Consultant unless approved in advance in writing by the City, stating the dollar value of the services, the method of payment, and any adjustment in contract time. All such services are to be coordinated with City and the results of the work shall be monitored by the \_\_\_\_\_ or his designee. However, the means by which the work is accomplished shall be the sole responsibility of the Consultant.

2. **TIME OF PERFORMANCE.** All of the work outlined in the Scope of Services shall be completed in accordance with the Schedule outlined in Exhibit "B" attached hereto and incorporated herein by reference. By mutual agreement and written addendum to this Agreement, the City and the Consultant may change the requirements in said Schedule.

3. **RESERVED.**

4. **COMPENSATION.** Payment by the City to the Consultant for actual services rendered under this Agreement shall be made upon presentation of an

invoice detailing services performed under the Scope of Services, in accordance with the fee schedule set forth in Exhibit "C" attached hereto and incorporated herein by reference. The Consultant agrees to provide all services required under the Scope of Services in Exhibit "A" within the compensation amount set forth in Exhibit "C". For Consultant's services rendered under this Agreement, City shall pay Consultant the not to exceed sum of \$\_\_\_\_\_.

5. METHOD OF PAYMENT. Compensation to Consultant shall be paid by the City after submission by Consultant of an invoice delineating the services performed.

6. RECORDS. It is understood and agreed that all plans, studies, specifications, data magnetically or otherwise recorded on computer or computer diskettes, records, files, reports, etc., in possession of the Consultant relating to the matters covered by this Agreement shall be the property of the City, and Consultant hereby agrees to deliver the same to the City upon termination of the Agreement. It is understood and agreed that the documents and other materials including but not limited to those set forth hereinabove, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use.

7. CONSULTANT'S BOOKS AND RECORDS. Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City for a minimum of three (3) years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement. Any records or documents required to be maintained shall be made available for inspection, audit and/or copying at any time during regular business hours, upon oral or written request of the City.

8. INDEPENDENT CONTRACTOR. It is expressly understood that Consultant is an independent contractor and that its employees shall not be employees of or have any contractual relationship with the City. Consultant shall be responsible for the payment of all taxes, workers' compensation insurance and unemployment insurance. Should Consultant desire any insurance protection, the Consultant is to acquire same at its expense.

In the event Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System

(PERS) to be eligible for enrollment in PERS as an employee of the City, Consultant shall indemnify, protect, defend, and hold harmless the City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

9. INDEMNITY. Consultant shall indemnify, protect, defend (with legal counsel selected by the City), save and hold City, its officers, employees, and agents, harmless from any and all claims or causes of action for death or injury to persons, or damage to property resulting from intentional or negligent acts, errors, or omissions of Consultant or Consultant's officers, employees, volunteers, and agents during performance of this Agreement, or from any violation of any federal, state, or municipal law or ordinance, to the extent caused, in whole or in part, by the willful misconduct, negligent acts, or omissions of Consultant or its employees, subcontractors, or agents, or by the quality or character of Consultant's work, or resulting from the negligence of the City, its officers, employees, volunteers and agents, except for loss caused by the sole negligence or willful misconduct of the City or its officers, employees, volunteers or agents. It is understood that the duty of Consultant to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code. Acceptance by City of insurance certificates and endorsements required under this Agreement does not relieve Consultant from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall survive the termination of this Agreement and shall apply to any damages or claims for damages whether or not such insurance policies shall have been determined to apply. By execution of this Agreement, Consultant acknowledges and agrees to the provisions of this Section and that it is a material element of consideration.

10. INSURANCE. During the term of this Agreement, Consultant shall maintain in full force and effect at its own cost and expense, the following insurance coverage:

a. Workers' Compensation Insurance. Full workers' compensation insurance shall be provided with a limit of at least One Hundred Thousand Dollars (\$100,000) for any one person and as required by law, including Employer's Liability limits of \$1,000,000.00 per accident. The policy shall be endorsed to waive the insurer's subrogation rights against the City.

b. General Liability.

- (i) Consultant shall obtain and keep in full force and effect general liability coverage at least as broad as ISO commercial general liability coverage occurrence Form CG 0001.
- (ii) Consultant shall maintain limits of no less than One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage.
- (iii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects liability arising out of work or operations performed by or on behalf of the Consultant.
- (iv) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.
- (v) Consultant shall maintain its commercial general liability coverage for three (3) years after completion of the work and shall add an additional insured endorsement form acceptable to the City naming the City of Merced, its officers, employees, agents and volunteers for each year thereafter for at least three (3) years after completion of the work. Copies of the annual renewal and additional insured endorsement form shall be sent to the City within thirty (30) days of the annual renewal.

c. Automobile Insurance.

- (i) Consultant shall obtain and keep in full force and effect an automobile policy of at least One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.
- (ii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects automobiles owned, leased, hired or borrowed by the Consultant.

- (iii) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.

d. Professional Liability Insurance. Consultant shall carry professional liability insurance appropriate to Consultant's profession in the minimum amount of One Million Dollars (\$1,000,000). Architects and engineers' coverage is to be endorsed to include contractual liability.

e. Qualifications of Insurer. The insurance shall be provided by an acceptable insurance provider, as determined by City, which satisfies all of the following minimum requirements:

- (i) An insurance carrier admitted to do business in California and maintaining an agent for service of process within this State; and,
- (ii) An insurance carrier with a current A.M. Best Rating of A:VII or better (except for workers' compensation provided through the California State Compensation Fund).

f. Certificate of Insurance. Consultant shall complete and file with the City prior to engaging in any operation or activity set forth in this Agreement, certificates of insurance evidencing coverage as set forth above and which shall provide that no cancellation or expiration by the insurance company will be made during the term of this Agreement, without thirty (30) days written notice to City prior to the effective date of such cancellation—including cancellation for nonpayment of premium. In addition to any other remedies City may have, City reserves the right to withhold payment if Consultant's insurance policies are not current.

11. ASSIGNABILITY OF AGREEMENT. It is understood and agreed that this Agreement contemplates personal performance by the Consultant and is based upon a determination of its unique personal competence and experience and upon its specialized personal knowledge. Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express written consent of the City.

12. **TERMINATION FOR CONVENIENCE OF CITY.** The City may terminate this Agreement any time by mailing a notice in writing to Consultant that the Agreement is terminated. Said Agreement shall then be deemed terminated, and no further work shall be performed by Consultant. If the Agreement is so terminated, the Consultant shall be paid for that percentage of the phase of work actually completed, based on a pro rata portion of the compensation for said phase satisfactorily completed at the time the notice of termination is received.

13. **CONFORMANCE TO APPLICABLE LAWS.** Consultant shall comply with its standard of care regarding all applicable Federal, State, and municipal laws, rules and ordinances. No discrimination shall be made by Consultant in the employment of persons to work under this contract because of race, color, national origin, ancestry, disability, sex or religion of such person.

Consultant hereby promises and agrees to comply with all of the provisions of the Federal Immigration and Nationality Act (8 U.S.C.A. 1101 *et seq.*), as amended; and in connection therewith, shall not employ unauthorized aliens as defined therein. Should Consultant so employ such unauthorized aliens for the performance of work and/or services covered by this Agreement, and should any agency or instrumentality of the federal or state government, including the courts, impose sanctions against the City for such use of unauthorized aliens, Consultant hereby agrees to, and shall, reimburse City for the cost of all such sanctions imposed, together with any and all costs, including attorneys' fees, incurred by the City in connection therewith.

14. **WAIVER.** In the event that either City or Consultant shall at any time or times waive any breach of this Agreement by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Agreement, whether of the same or any other covenant, condition or obligation. Waiver shall not be deemed effective until and unless signed by the waiving party.

15. **INCONSISTENT OR CONFLICTING TERMS IN AGREEMENT AND EXHIBITS.** In the event of any contradiction or inconsistency between any attached document(s) or exhibit(s) incorporated by reference herein and the provisions of the Agreement itself, the terms of the Agreement shall control.

Any exhibit that is attached and incorporated by reference shall be limited to the purposes for which it is attached, as specified in this Agreement. Any contractual terms or conditions contained in such exhibit imposing additional

obligations on the City are not binding upon the City unless specifically agreed to in writing, and initialed by the authorized City representative, as to each additional contractual term or condition.

16. **AMBIGUITIES.** This Agreement has been negotiated at arms' length between persons knowledgeable in the matters dealt with herein. Accordingly, any rule of law, including, but not limited to, Section 1654 of the Civil Code of California, or any other statutes, legal decisions, or common-law principles of similar effect, that would require interpretation of any ambiguities in this Agreement against the party that drafted this Agreement is of no application and is hereby expressly waived.

17. **VENUE.** This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this agreement shall be held exclusively in a state court in the County of Merced.

18. **AMENDMENT.** This Agreement shall not be amended, modified, or otherwise changed unless in writing and signed by both parties hereto.

19. **INTEGRATION.** This Agreement constitutes the entire understanding and agreement of the parties and supersedes all previous and/or contemporaneous understanding or agreement between the parties with respect to all or any part of the subject matter hereof.

20. **AUTHORITY TO EXECUTE.** The person or persons executing this Agreement on behalf of the parties hereto warrants and represents that he/she/they has/have the authority to execute this Agreement on behalf of their entity and has/have the authority to bind their party to the performance of its obligations hereunder.

21. **COUNTERPARTS.** This Agreement may be executed in one or more counterparts with each counterpart being deemed an original. No counterpart shall be deemed to be an original or presumed delivered unless and until the counterparts executed by the other parties hereto are in the physical possession of the party or parties seeking enforcement thereof.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first above written.

CITY OF MERCED  
A California Charter Municipal  
Corporation

BY: \_\_\_\_\_  
City Manager

ATTEST:  
JOHN M. BRAMBLE, CITY CLERK

BY: \_\_\_\_\_  
Assistant/Deputy City Clerk

APPROVED AS TO FORM:

BY: \_\_\_\_\_  
City Attorney                      Date

ACCOUNT DATA:

BY: \_\_\_\_\_  
Verified by Finance Officer

CONSULTANT

BY: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Typed Name)

Its: \_\_\_\_\_  
(Title)

BY: \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Typed Name)

Its: \_\_\_\_\_  
(Title)

Taxpayer I.D. No. \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_