TO:	James L. App, City Manager						
FROM:	Dennis J. Cassidy, Chief of Police						
SUBJ:	Five Year Update to Speed Zone Survey						
DATE:	August 5, 2003						
NEEDS:	For the City Council to review and consider acceptance of the recent Speed Zo Survey completed by Omni-Means.						
FACTS:	1.	The City is required to complete a speed zone study every five years in order to comply with the State Vehicle Code for enforcement by use of radar. Specific criteria must be met in establishing speed limits. Without conformance to the state law, police cannot use radar to enforce speed limits. See attached Exhibit "A" for details on how the survey was conducted and mitigating criteria for establishing posted speeds.					
	2.	On September 2, 2002, the City Council authorized a contract with Omni- Means to complete the data collection and analysis required to meet the City's Speed Survey requirements.					
	3.	Work on this project has been completed over the past months, including radar studies and engineering traffic studies as required by the State in and compliance with local Superior Court specifications.					
	4.	A total of fifty-two (52) roadway segments were surveyed in this project. This number increased by twenty-four (24) since the last completed survey. Survey data supports recommendations for seven (7) posted speed limits to be raised, twelve (12) posted speed limits be reduced, twenty-two (22) to remain unchanged and eleven (11) new speed limit signs be posted. See Exhibit "B" for summary data.					
	5.	This item was reviewed by the Streets & Utilities Committee on June 27, 2003, and they recommended the survey be referred to the City Council for acceptance.					
ANALYSIS & CONCLUSION:	Omni-Means has recently completed their contract to collect and analyze speed surve data for fifty-two (52) segments of roadway within the City limits. Approximately has of the areas surveyed were in addition to previously surveyed roads. Data from the surveys support an increase in speed on seven (7) roads. Most of these are increases of 5 mph. There are twelve (12) roadway segments where speed should be reduced by mph. We have 11 areas of roadway not previously surveyed which need designate speed limit signs posted. The remaining twenty-two (22) areas are unchanged by the survey data. The Police Department has reviewed the data and concurs with the results of the Omni-Means report. We recommend ratification of the speed zone surveys ar adjustment of speed limit signs accordingly.						

POLICY REFERENCE:	Title 12, Chapter 12.54, Section 12.54.010 of the Municipal Code, Section 22354 of the California Vehicle Code, and the Caltrans Traffic Manual.
FISCAL IMPACT:	None
OPTIONS:	a. Adopt Resolution No. 03-xx updating speed limits within the City of Paso Robles.b. Amend, modify or reject the above option.

Exhibit "A"

April 22, 2003

Ms. Ditas Esperanza, P.E. City of Paso Robles 1000 Spring Street Paso Robles, CA 93446

RE: City of Paso Robles Speed Survey Update

Dear Ms. Esperanza:

The following letter report outlines the Engineering and Traffic Speed Survey conducted by OMNI-MEANS for the City of Paso Robles. The survey was conducted to assist the City in setting appropriate and safe speed limits for certain key City streets. For each street segment surveyed, radar speed measurements were conducted. This data was considered along with other factors, including roadway characteristics, adjacent land uses, side street traffic, traffic accidents, and sight distances. Typically, roadway speed limits are established based upon a combination of these factors along with the measured "critical vehicle speed." This is usually referred to as the 85th percentile speed and is defined as the speed at which 85 percent of the motorists are traveling at or below. The following sections describe the data collection efforts and analyses for the traffic speed study.

BACKGROUND METHODOLOGY

Speed zoning or the application of designated vehicle speed limits is consistent with the State of California's laws for establishing *prima facie* (on the face of it) speed limits on public streets. Typically, speed zoning is warranted on streets and thoroughfares where there are "appreciable" amounts of traffic volumes and that speed zones would help contribute to the "orderly movement" of traffic by increasing driver awareness of a reasonable speed. Not all streets require prima facie speed limits. These include well established business districts or urban areas where speed limits are clearly apparent. The basic goal of speed zoning is to prevent motorists from operating at a wide range of speeds along a thoroughfare that could create vehicle conflicts. Speed zoning allows motorists to travel at or near the same speeds.

Speed limits range from absolute to prima facie. Absolute speed limits are usually found on freeways where the maximum speed limit (65 mph or 70 mph) cannot be exceeded. Prima facie speed limits are usually established through speed zoning studies. In some instances, there are automatic prima facie speed limits. These include a temporary 25 mph limit through school zones when children are present coming to/from school or 15 mph speed limits at uncontrolled railroad crossings. It is possible for a motorist to exceed the established prima facie speed limit if it is safe to do so under current driving conditions. However, if the motorist is cited by a police officer, the motorist must prove that he/she was driving in a safe and prudent manner and not endangering other motorists.

DATA COLLECTION

Study Initiation: Based on discussions with City staff, speed surveys were conducted at locations throughout the City of Paso Robles at 52 separate locations along 35 roadways. For each survey, a

"Radar Speed Survey" worksheet was prepared summarizing the measured vehicle speed characteristics, such as the average speed, the critical speed (85th percentile speed), the pace speed and the posted speed limit.

Survey Locations: Radar speed surveys were collected at the locations identified in Table 1.

Data Collection Procedures: Field data was generally collected during November of 2002 thru the first two weeks of January 2003 along the indicated roadway segments and survey locations, with the exception of Rambouillet Road segments, which were collected in late May 2002. Each of the radar speed surveys was made from an inconspicuously parked vehicle. An effort was made to ensure that the presence of the vehicle in no way affected the speed of the traffic being surveyed. Field information was recorded on forms and later electronically coded for computer analysis. Along sections of roadways where traffic flows more freely, only the lead vehicle of bunches or vehicles alone were recorded. The calculations derived from this technique accurately demonstrate a balance among the speed, capacity, and general use of a segment.

FIELD SURVEY RESULTS

Field Data Reduction: Copies of the computer analysis of the field data collected at each survey location are attached to this report. The data at the top of each analysis indicates the observed conditions while the data at the bottom represents the calculated conditions. Observed conditions include the location of the spot speed survey, the direction of travel, the date and day of the week, and time of the survey. The existing speed limit, if posted, is noted along with the type of roadway and the general type of adjacent development (business, residential, industrial, etc.) Calculated values include the average speed, the 85th percentile (critical) speed, the 10 mph pace speed and the percent of vehicles observed within the 10 mph pace speed, the range of speeds observed and the total number of vehicles observed. A brief explanation of some of these terms follows.

The average speed is the arithmetical mean of the speeds observed and is derived by dividing the sum of all the speeds observed by the total number of observations.

The 85th percentile speed is that speed at or below which 85 percent of the observed vehicles are traveling. The 85th percentile speed (also called the critical speed) of a spot speed survey is the primary indicator of a speed limit that might be imposed. For City roadways the speed limit normally should be established at the first five mile per hour increment below the 85th percentile speed. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment may indicate the need for a further reduction of five miles per hour. Factors affecting the decision to further decrease the speed limit include accident experience, traffic volumes, road features, or other special situations.

The pace is the 10 miles per hour increment of observed speeds that contains the greatest number of vehicles. In nearly all cases, the 85th percentile speed and the recommended speed limit lie somewhere within the pace, frequently in the middle to upper ranges. This is another indicator used to determine appropriate speed limits.

	Table 1							
City of Paso Robles								
Speed Zones - 2002/03								
#	Street	From / To						
1	Appaloosa Dr	Niblick to Red Cloud						
2	Buena Vista Dr	SR 46 to City Limit						
3	Charolais Rd	River Rd to Creston						
4	Commerce St	Sherwood to Scott						
5	Creston Rd	River Rd to Niblick						
6	Creston Rd	Niblick to Meadowlark						
7	Creston Rd	Meadowlark to City Limit						
8	Experimental Station	Buena Vista to River Oaks						
9	Golden Hill Rd	Creston to Rolling Hills Rd						
10	Golden Hill Rd	Rolling Hills Rd to Union						
11	Golden Hill Rd	Union to SR 46						
12	Lana	Creston to Melody						
13	Linne Rd	Fontana to City Limit						
14	Meadowlark Rd	Creston to Beechwood						
15	Meadowlark Rd	Beechwood to Airport						
16	Navajo	River to Crazy Horse						
17	Niblick Rd	Spring to Bridge						
18	Niblick Rd	River to Creston						
19	North River Rd	Creston North to City Limit						
20	Pacific Ave	Olive to W City Limit						
21	Southerly Paso Robles St	13th to US 101						
22	Pine	10th to 4th						
23	Ramada Dr	SR 46 to Vendel Circle						
24	Rambouillet Rd	Niblick to Nicklaus						
25	Rambouillet Rd	Nicklaus to Charolais						
26	Riverside Ave	Black Oak to 13th						
27	Riverside Ave	US 101 to 13th						
28	Rolling Hills Rd	Creston to Golden Hill						
29	Scott St	Creston to Commerce						
30	Sherwood Rd	Creston to Fontana						
31	South River Road	Creston To Niblick						
32	South River Road	Niblick to Charolais						
33	South Vine St	1st to SR 46 West						
34	Spring St	1st to 10th						
35	Spring St	10th to 24th						
36	Spring St	24th to 36th						
37	Stoney Creek	Creston to Rambouillet						
38	Theatre Dr	SR 46 West to South City Limit						
39	Union Rd	River to Golden Hill						
40	Union Rd	Golden Hill to SR 46						
41	Union Rd	Along Barney Schwartz Park						
42	Vine St	1st to 12th						
43	Vine St	12th to 17th						
44	Vine St	17th to 24th						
45	Vine St	24th to 32nd						
46	10th St	Riverside to Spring						
47	12th St	Vine to Merryhill						
48	13th St	Spring to Riverside						
49	16th St	Spring to Riverside						
50	21st St	Spring to Riverside						
51	24th St	West City Limit to Spring						
52	24th St	Spring to US 101						

The percent of vehicles in the pace speed is an indication of the bunching of vehicular speeds. The higher the percent of vehicles within the pace speed the better the speed distribution. The percent in the pace is often between 60 and 80.

Table 2 (attached) presents a summarized list of the raw radar data that was utilized to develop this report. The table includes the street name, segment limits, number of lanes, average daily traffic (ADT) if available, distance of segment, number of accidents for 2001 and 2002 (average between the two), City accident rate (annual accidents per million vehicle miles), statewide accident rate, roadway classification, posted speed, critical speed, difference between critical and posted speeds, recommended speed, and the difference between recommended and critical speeds. Text shown in bold font indicates that the City accident rate was greater than the statewide accident rate.

Survey Results: Based on recorded radar observations of current vehicle speeds, seven (7) locations had a measured 85^{th} percentile (critical) speed below the posted speed limit, 21 had measured 85^{th} percentile speeds 0-5 mph above the posted speed limit, 11 had measured 85^{th} percentile speeds 6-10 mph above the posted speed limit, and two (2) had a measured 85^{th} percentile speed of 11 mph or more above the posted speed limit. The remaining 11 locations did not have a posted speed limit.

Besides measuring the 85th percentile speed, other physical or demographic factors regarding a roadway segment can be involved in determining the proper vehicle speeds, including type of adjacent land use, presence of on-street parking, roadway grade changes or curvature, and/or proximity to schools.

Recommendations: Based on the results of the survey and outlined in Table 2 (attached), it is recommended that eight (8) of the posted speed limits be raised, nine (9) of the posted speed limits be reduced, 24 to remain unchanged, and 11 to post speed limit signs.

Please feel free to give me a call if you have any questions regarding the results of the surveys.

Sincerely,

OMNI-MEANS, Ltd. Engineers & Planners

H. Ross Ainsworth, P.E., T.E. President

Attachments

RESOLUTION NO. 03-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES ACCEPTING THE COMPLETED SPEED ZONE SURVEYS AND AUTHORIZING THE UPDATE AND ENFORCEMENT OF POSTED SPEEDS ACCORDINGLY

WHEREAS, the City is required to update its speed zone studies every five years as mandated by State law; and

WHEREAS, the City Council contracted with Omni-Means traffic engineers to complete speed zone surveys consisting of radar and traffic engineering studies; and

WHEREAS; the Streets & Utilities Committee, Police Department and Public Works Department have reviewed the speed studies and concur with the speed limits as listed in the attached Exhibit "A"; and

WHEREAS, Municipal Code Section 12.54.010 and 12.54.020 allow for speed limits to be set by resolution of the City Council.

NOW, THEREFORE, BE IT HEREBY RESOLVED that the City Council of the City of El Paso de Robles does hereby adopt this resolution amending the speed limits within the City limits as listed on the attached Exhibit "A," superseding the limits as set forth in Chapter 12.54 of the Municipal Code and all previous resolutions adopting speed limits.

PASSED AND ADOPTED by the City Council of the City of Paso Robles this 5th day of August 2003 by the following vote:

AYES: NOES: ABSTAIN: ABSENT:

Frank R. Mecham, Mayor

ATTEST:

Sharilyn M. Ryan, Deputy City Clerk

Exhibit "A"

Speed Zones - 2002/03

# Street	From / To	Lanes	ADT	Distance	Accidents (1)	City Acc Bate (2)	Statewide Acc Rate (2)	Classification	Posted Speed	Critical Speed	Diff	Recom Sneed	Rec Spd	#
1 Appaloosa Drive	Niblick to Red Cloud	2		Distance	1.0	0.0	3.3	Clussification	None	26		25	1	1
2 Buena Vista Dr	SR 46 to City Limit	2	3 220	2 200	1.5	3.1	3.3	Collector	35	42	7	40	2	2
3 Charolais Rd	River Rd to Creston	2	2,060	8 200	2.5	2.1	3.3	Collector	40	46	6	40	6	3
4 Commerce St	Sherwood to Scott	2	2,000	0,200	2.0	0.0	3.3	Concetor	None	-+0 30		35	4	4
5 Creston Rd	River Rd to Niblick	4	13 320	11,000	34.0	3.4	5.2	Arterial	35	39	4	35	4	
6 Creston Rd	Niblick to Meadowlark		8 680	5 700	5.5	1.6	5.2	Arterial	40	37 /1		35	-	6
7 Creston Rd	Meadowlark to City Limit	2	2,990	1,600	2.0	6.0	3.3	Arterial	40	52	12	45	7	7
8 Experimental Station	Buena Vista to River Oaks	2	2,550	1,000	1.0	0.0	3.3	7 internal	25	37	12	30	7	8
9 Golden Hill Rd	Creston to Rolling Hills Rd	2	6 790	5 500	5.0	1.0	3.3	Collector	50	51	12	45	6	0
10 Golden Hill Rd	Polling Hills Pd to Union	2	7,800	2,500	4.5	2.2	2.2	Collector	50	40	(1)	45		10
10 Golden Hill Rd	Union to SP 46	2	6,800	2,300	4.5	3.5	2.2	Collector	50	49	(1)	45	4	10
12 Lene	Creston to Melody	2	0,800	1,700	0.0	4.4	3.3	Conector	None	41 27	(9)	45	(4)	12
12 Lana 12 Linno Pd	Eventore to City Limit	2	2.240	2 200	0.0	2.0	3.3	Collector		42		25	2	12
13 Linie Ku 14 Maadawlark Dd	Creater to Resolvesed	2	2,240	5,500	2.0	3.9	3.3	Conector	None	42	2	35	,	13
14 Meadowlark Kd 15 Meadowlark Rd	Creston to Beechwood Beechwood to Airport	2		-	1.0	0.0	3.3		None	<u> </u>		35	5	14
16 Navajo	Piver to Crazev Horse	2			0.0	0.0	3.3		25	31	6	30	1	16
17 Niblick Pd	Spring to Bridge		19 710	3 200	14.5	3.3	5.2	Arterial	40	45	5	40	5	17
17 Notice Pd	Biver to Creston	4	16,710	5,200	19.0	2.3	5.2	Artorial	40	45	5	40	5	1/
10 Pagifig Ave	Olive to W City Limit	4	10,210	0,000	10.0	2.4	3.2	Alteria	40	43	3	20	3	10
20 Southerly Page Debles St	12th to US 101	2			1.0	0.0	2.2		30	33	3	25	5	19
20 Southerry Paso Robles St	10th to 4th	2	2 860	2 400	4.0	0.0 8.4	3.3	Collector	40 None	40	0	30		20
21 Fille 22 Domodo Dr	SD 46 to Vendel Circle	2	2,000	2,400	4.0	6.4	3.3	Collector	None	40		30	5	21
22 Ramada Dr	SK 46 to vendel Circle	2	2,530	2,800	3.0	0.1	3.3	Collector	None	40		35	3	22
		2	1,940	2,500	0.0	0.0	3.3	Collector	25	27	2	25	2	23
24 Rambouillet RD	Nicklaus to Charolais	2	1,940	3,500	1.0	2.1	3.3	Collector	25	28	3	25	3	24
25 North River Rd	Creston North to City Limit	2	1,500	8,300	6.5	7.6	3.3	Collector	40	46	6	40	6	25
26 South River Road	Creston To Niblick	2	5,900	5,300	7.0	3.2	3.3	Arterial	35	42	1	40	2	26
27 South River Road	Niblick to Charolais	2	8,610	3,700	3.0	1.4	3.3	Arterial	40	41	1	40	1	27
28 Riverside Ave	Black Oak to 13th	2			11.5	0.0	3.3		35	38	3	35	3	28
29 Riverside Ave	US 101 to 13th	2			7.0	0.0	3.3	~ "	35	37	2	35	2	29
30 Rolling Hills Rd	Creston to Golden Hill	2	1,170	4,700	0.0	0.0	3.3	Collector	35	44	9	35	9	30
31 Scott St	Creston to Commerce	2			0.0	0.0	3.3		35	36	1	35	1	31
32 Sherwood Rd	Creston to Fontana	2	6,680	2,800	0.5	0.4	3.3	Collector	45	48	3	45	3	32
33 Spring St	1st to 10th	3	15,800	3,600	40.0	10.2	5.2	Collector	35	33	(2)	30	3	33
34 Spring St	10th to 24th	3	15,430	5,600	48.0	8.0	5.2	Collector	30	32	2	30	2	34
35 Spring St	24th to 36th	3	11,150	3,800	21.0	7.2	5.2	Collector	35	36	1	35	1	35
36 Stoney Creek	Creston to Rambouillet	2			2.5	0.0	3.3		25	32	7	30	2	36
37 Theatre Dr	SR 46 West to South City Limit	2	4,240	3,000	10.0	11.4	3.3	Collector	45	47	2	40	7	37
38 Union Rd	River to Golden Hill	2	4,330	9,200	4.0	1.5	3.3	Collector	45	52	7	45	7	38
39 Union Rd	Golden Hill to SR 46	2	5,600	3,300	1.5	1.2	3.3	Collector	45	48	3	45	3	39
40 Union Rd	Along Barney Schwartz Park	2	1,710	2,000	0.0	0.0	3.3	Collector	55	58	3	50	8	40
41 Vine St	1st to 12th	2	3,140	4,300	12.0	12.9	3.3	Collector	35	34	(1)	30	4	41
42 Vine St	12th to 17th	2	3,140	2,050	3.5	7.9	3.3	Collector	35	32	(3)	30	2	42
43 Vine St	17th to 24th	2	3,140	2,900	2.0	3.2	3.3	Collector	35	36	1	35	1	43
44 Vine St	24th to 32nd	2	1,500	3,300	1.0	2.9	3.3	Collector	35	36	1	35	1	44
45 South Vine St	1st to SR 46 West	2			2.0	0.0	3.3		50	43	(7)	45	(2)	45
46 10th St	Riverside to Spring	2			4.0	0.0	3.3		None	28		25	3	46
47 12th St	Vine to Merryhill	2			2.0	0.0	3.3		30	29	(1)	30	(1)	47
48 13th St	Spring to Riverside	2	9,500	1,400	22.0	23.9	3.3	Collector	None	24		25	(1)	48
49 16th St	Spring to Riverside	2			4.0	0.0	3.3		None	32		30	2	49
50 21st St	Spring to Riverside	2			2.0	0.0	3.3		None	32		30	2	50
51 24th St	West City Limit to Spring	2			8.0	0.0	3.3		35	41	6	35	6	51
52 24th St	Spring to US 101	2	7,200	2,800	29.0	20.8	3.3	Arterial	30	29	(1)	25	4	52
Note: (1) Accidents equal to the greater of the average of 2001 & 2002			Speed reduced											

Note: (1) Accidents equal to the greater of the average of 2001 & 200
(2) Accidents per million vehicle miles travelled.

Speed increased

Bole indicates new posting