



**CITY OF REDDING  
ENGINEERING AND TRAFFIC SURVEY  
OF  
CHURN CREEK ROAD**

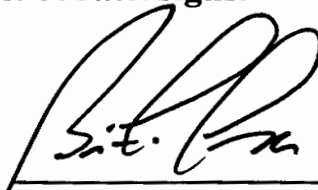
**JULY 31, 2010**

**For the determination of safe and reasonable speed zoning as required by Sections 22358 and 40802 of the California Vehicle Code (CVC), as defined by Section 627 of the CVC and in accordance with Section 2B. 13 of the California Manual on Uniform Traffic Control Devices, this Engineering and Traffic Survey (ETS) was initiated to verify or modify speed zones on Churn Creek Road.**

**Based on the results of this ETS (attached) and adoption of Ordinance Number 2465 by the City Council of the City of Redding amending Redding Municipal Code Section 11.12.010, the following speed zones on Churn Creek Road are established;**

- **45 MPH from College View Drive to Browning Street.**
- **35 MPH from Browning Street to Hartnell Avenue.**
- **35 MPH from Hartnell Avenue to Denton Way.**
- **45 MPH from Denton Way to South Bonnyview Road.**

**In accordance with Redding Municipal Code 11.08.010, appropriate signs giving notice of the above speed zoning shall be placed and the stated speed limit(s) shall be effective upon the placement of such signs.**

  
3/26/2012  
\_\_\_\_\_  
Brian Crane, P. E.

**Director of Public Works**

**ATTEST:**

  
3/26/2012  
\_\_\_\_\_  
PAMELA MIZE, City Clerk

**City of Redding  
Churn Creek Road  
Engineering and Traffic Survey (ETS) for Speed Zoning**

	Speed Zone Limits	Speed Zone Limits	Speed Zone Limits	Speed Zone Limits
	COLLEGE VIEW DRIVE TO BROWNING STREET	BROWNING STREET TO HARTNELL AVENUE	HARTNELL AVENUE TO DENTON WAY	DENTON WAY TO SO. BONNYVIEW ROAD

**ROADSIDE CONDITIONS**

LAND USE DISTRICT	RESIDENTIAL	BUSINESS	RESIDENTIAL	RESIDENTIAL-BUSINESS
PEDESTRIANS USE	FEW	FEW	NUMEROUS	SOME
PERCENT SIDEWALKS	50%	80%	100%	50%
BIKE LANE or ROUTE	YES	YES	YES	YES
DRIVEWAYS PRESENT	FEW	NUMEROUS	NUMEROUS	FEW

**ROADWAY GEOMETRY**

LENGTH OF ROADWAY SEGMENT (FEET)	8,500	11,000	6,100	3,800
NUMBER OF THRU LANES	2 (1 NB, 1 SB)	4 (2 NB, 2 SB)	4 (2 NB, 2 SB)	4 (2 NB, 2 SB)
WIDTH (FEET)	VARIES 28 - 70	VARIES 66 - 70	64	VARIES 50 - 63
MEDIAN TYPE	DBL YELLOW STRIPE	DBL YELLOW STRIPE & CONCRETE & TURN LANE	TURN LANE	CONCRETE & TURN LANE
HORIZONTAL ALIGNMENT	STRAIGHT - CURVES	STRAIGHT - CURVES	STRAIGHT	STRAIGHT & CURVES
VISIBILITY	GOOD	GOOD	GOOD	GOOD
VERTICAL ALIGNMENT	FLAT	FLAT	FLAT	FLAT

**OBSERVED TRAFFIC CONDITIONS**

DATE OF RADAR SURVEY	January 26, 2009	January 26, 2009	January 26, 2009	January 16, 2009
AVERAGE DAILY TRAFFIC (ADT)	11,500	21,000	16,200	10,000
EXISTING POSTED SPEED	45 MPH	35 MPH	35 MPH	40 MPH
CRITICAL SPEED (85th PERCENTILE)	48 MPH	40 MPH	42 MPH	45 MPH
MEDIAN SPEED (50th PERCENTILE)	42 MPH	35 MPH	37 MPH	40 MPH
10 MPH PACE RANGE	36 - 46 MPH	31 - 41 MPH	33 - 43 MPH	36 - 46 MPH
TOTAL COLLISIONS IN 2 YEARS	8	132	47	3
COLLISIONS PER MILLION VEHICLE MILES (MVM)	0.59 PER MVM	4.13 PER MVM	3.43 PER MVM	0.57 PER MVM
ROUNDING APPLIED TO OBSERVED CRITICAL SPEED (85th PERCENTILE) PER GUIDANCE OF MUTCD SECTION 2B.13	50 MPH	40 MPH	40 MPH	45 MPH

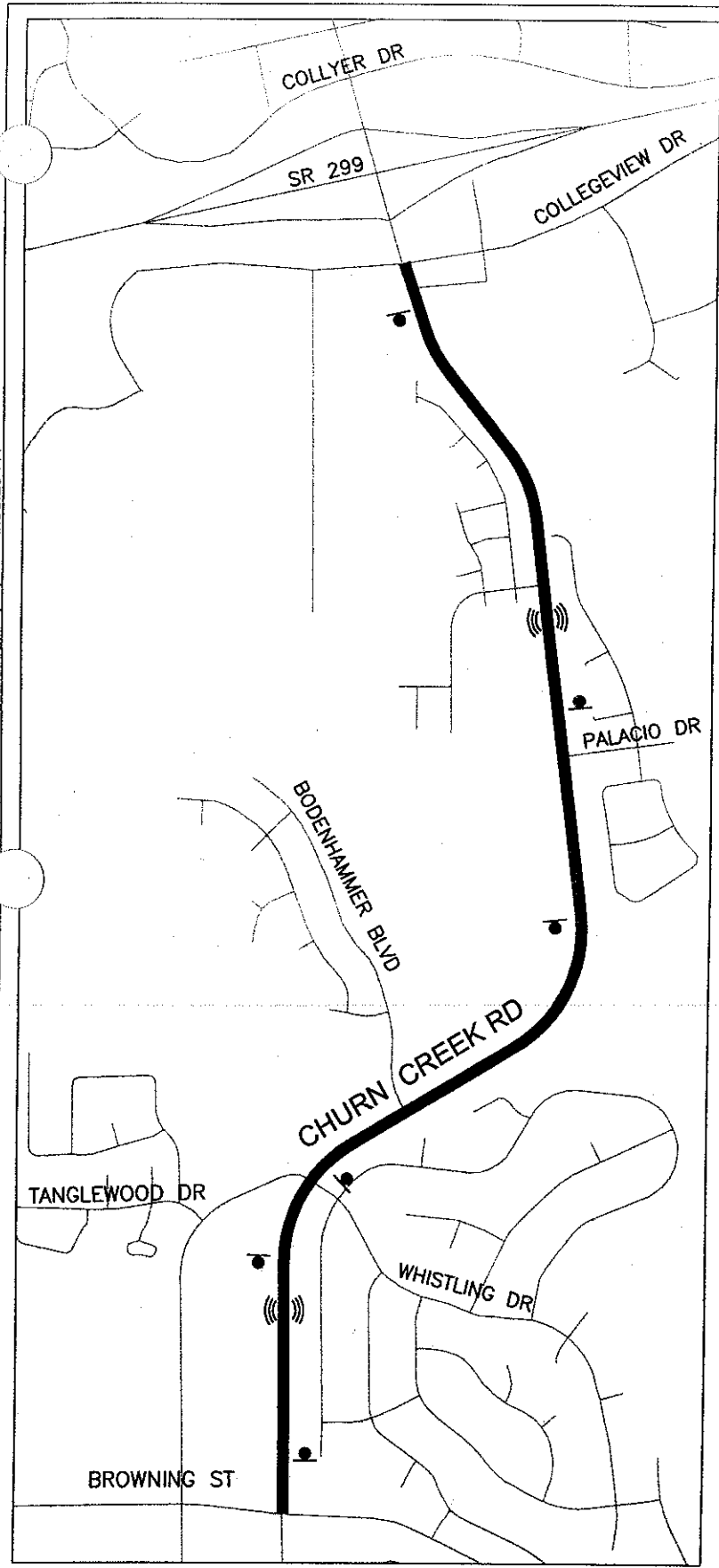
**RECOMMENDATION**

POST SPEED LIMIT	45 MPH	35 MPH	35 MPH	45 MPH
JUSTIFICATION FOR ESTABLISHING SPEED LIMIT 5 MPH BELOW CRITICAL SPEED (85th PERCENTILE)	THE NUMBER AND SEVERITY OF COLLISIONS OCCURRING INDICATE THAT THE CONDITIONS OF THE ROADWAY ARE NOT READILY APPARENT TO THE DRIVER. BICYCLISTS AND PEDESTRIANS HAVE BEEN OBSERVED ON THIS SEGMENT OF ROADWAY. THIS PORTION OF ROADWAY HAS BEEN LISTED IN THE CALIFORNIA 5 PERCENT REPORT, FOR THE HIGHWAY SAFETY IMPROVEMENT PROGRAM. POSTING THE SPEED LIMIT 5 MPH LOWER IS JUSTIFIED.	THE COLLISION RATE AND NUMBER OF COLLISIONS INDICATE THAT THE CONDITIONS OF THE ROADWAY ARE NOT READILY APPARENT TO THE DRIVER. POSTING THE SPEED LIMIT 5 MPH LOWER IS JUSTIFIED.	THE COLLISION RATE AND NUMBER OF COLLISIONS INDICATE THAT THE CONDITIONS OF THE ROADWAY ARE NOT READILY APPARENT TO THE DRIVER. NUMEROUS BICYCLISTS AND PEDESTRIANS HAVE BEEN OBSERVED ON THIS SEGMENT OF ROADWAY. A SCHOOL ZONE EXISTS WITHIN THIS SEGMENT OF ROADWAY. POSTING THE SPEED LIMIT 5 MPH LOWER IS JUSTIFIED.	N/A

*Gary Otremba* 7/7/10  
REGISTERED CIVIL ENGINEER DATE



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Posted Speed: 45		Day: Monday	
Weather: Clear & Dry		Date: 12/08/08 & 1/23/09	
Observer: Hogue & Lindstrom		Calcs: Otremba	
Critical Speed :	48	mph	
Average Speed :	41.9	mph	
Median Speed :	42	mph	
Standard Deviation:	5.6	mph	
Pace Range :	36 - 46	mph	
Percent in Pace :	62.6%		
Total # Vehicles :	235		

MPH	# of Veh.	Both Directions	%
58			100.0%
57			100.0%
56	2	♦♦	100.0%
55	1	♦	98.1%
54	2	♦♦	98.7%
53	1	♦	97.9%
52	4	♦♦♦♦	97.4%
51	6	♦♦♦♦♦♦	95.7%
50	7	♦♦♦♦♦♦♦	93.2%
49	11	♦♦♦♦♦♦♦♦♦♦	90.2%
48	11	♦♦♦♦♦♦♦♦♦♦	89.8%
47	9	♦♦♦♦♦♦♦♦	81.7%
46	6	♦♦♦♦♦♦	77.9%
45	17	♦♦♦♦♦♦♦♦♦♦♦♦	75.3%
44	9	♦♦♦♦♦♦♦♦	68.1%
43	21	♦♦♦♦♦♦♦♦♦♦♦♦♦♦	64.3%
42	21	♦♦♦♦♦♦♦♦♦♦♦♦♦♦	63.8%
41	20	♦♦♦♦♦♦♦♦♦♦♦♦♦♦	49.4%
40	11	♦♦♦♦♦♦♦♦	40.9%
39	17	♦♦♦♦♦♦♦♦♦♦♦♦	36.2%
38	14	♦♦♦♦♦♦♦♦♦♦	28.9%
37	14	♦♦♦♦♦♦♦♦♦♦	23.0%
36	10	♦♦♦♦♦♦♦♦	17.0%
35	10	♦♦♦♦♦♦♦♦	12.8%
34	7	♦♦♦♦♦♦	8.5%
33	7	♦♦♦♦♦♦	5.5%
32	1	♦	2.6%
31	1	♦	2.1%
30			1.7%
29	2	♦♦	1.7%
28			0.9%
27	2	♦♦	0.9%
26			0.0%
25			0.0%
24			0.0%

**LEGEND**

- SPEED LIMIT SIGN
- (( )) RADAR LOCATION
- ▬ 45 MPH SPEED ZONE

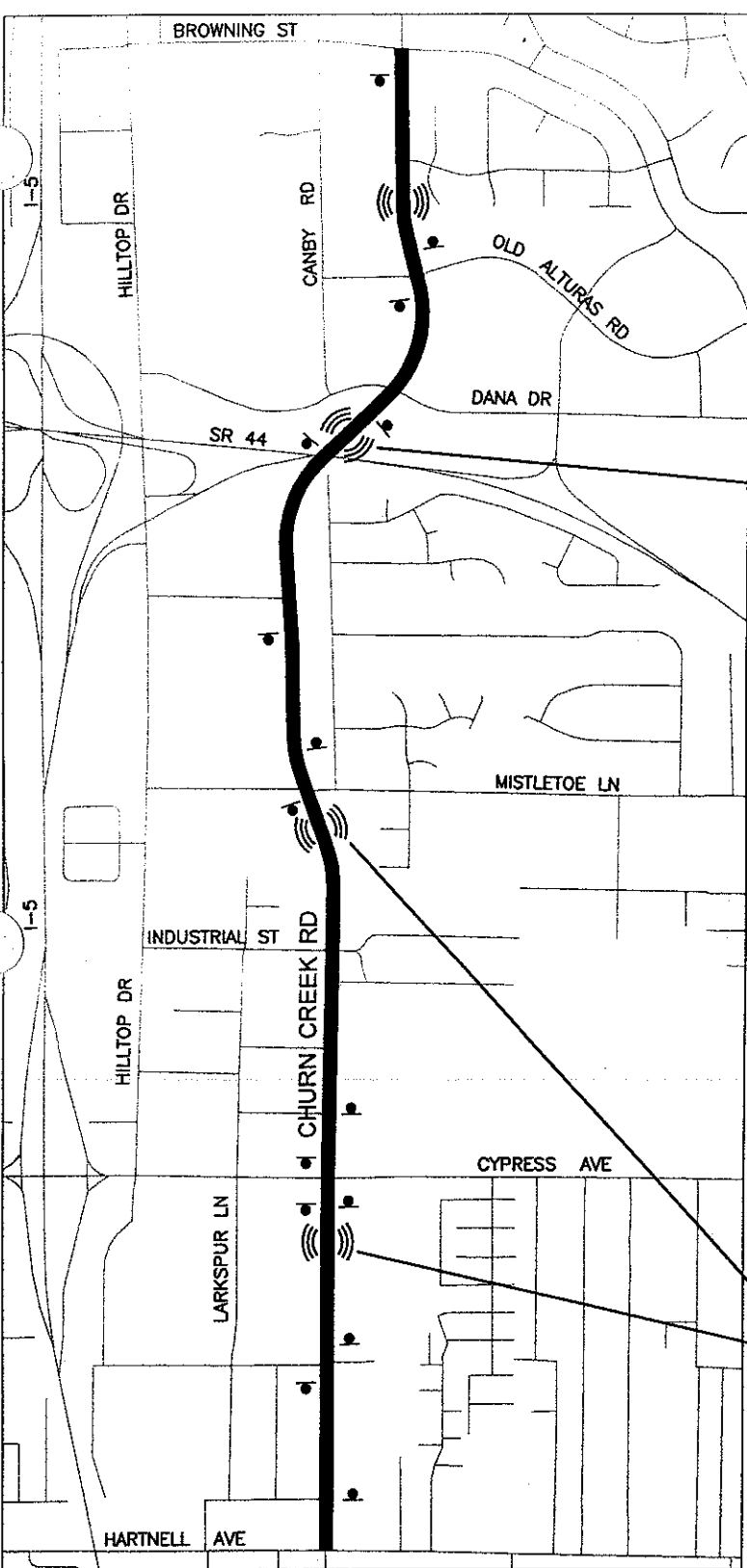
CITY OF REDDING PUBLIC WORKS DEPARTMENT

MAY 2010

**CHURN CREEK RD SPEED STUDY**  
COLLEGE VIEW DR TO BROWNING ST



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Posted Speed: 35		Day: Friday & Monday	
Weather: Clear & Dry		Date: 01/15/09 & 1/23/09	
Observer: Hogue		Time: 1:50 - 2:50 PM	
		Calcs: Otremba	
Critical Speed :	41 mph		
Average Speed :	35.5 mph		
Median Speed :	35 mph		
Standard Deviation:	5.0 mph		
Pace Range :	33 - 43 mph		
Percent in Pace :	66.1%		
Total # Vehicles :	304		




MPH	# of Veh.	Both Directions	%
52			100.0%
51	1	*	100.0%
50			99.7%
49			99.7%
48	2	**	99.0%
47	1	*	98.7%
46	2	**	98.0%
45	2	**	97.4%
44	2	**	96.7%
43	10	*****	93.4%
42	15	*****	87.5%
41	16	*****	83.2%
40	23	*****	75.7%
39	17	*****	70.1%
38	14	*****	65.5%
37	26	*****	50.3%
36	27	*****	41.4%
34	23	*****	33.9%
33	20	*****	27.3%
32	11	*****	23.7%
31	15	*****	18.8%
30	23	*****	11.2%
29	6	*****	9.2%
28	10	*****	5.9%
27	7	*****	3.6%
26	6	*****	1.6%
25	5	*****	0.0%
24			

Posted Speed: 35		Day: Friday	
Weather: Clear & Dry		Date: 1/16/09	
Observer: Hogue		Time: 10:30 AM - 2:15 PM	
		Calcs: Otremba	
Critical Speed :	39 mph		
Average Speed :	35.0 mph		
Median Speed :	35 mph		
Standard Deviation:	4.5 mph		
Pace Range :	30 - 40 mph		
Percent in Pace :	74.1%		
Total # Vehicles :	351		

MPH	# of Veh.	Both Directions	%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48	1	*	100.0%
47			99.7%
46	2	**	99.7%
45	3	**	99.1%
44	3	**	96.3%
43	2	**	97.4%
42	14	*****	96.9%
41	8	*****	92.9%
40	15	*****	90.6%
39	27	*****	78.6%
38	28	*****	70.7%
36	26	*****	58.1%
35	27	*****	45.3%
34	31	*****	37.6%
33	24	*****	28.5%
32	17	*****	21.9%
31	17	*****	17.1%
30	17	*****	12.3%
28	11	*****	8.8%
27	7	*****	5.4%
26	5	*****	3.4%
25	3	*****	2.0%
24	3	*****	1.1%
23	1	*	0.3%
22			0.0%

**LEGEND**

-  SPEED LIMIT SIGN
-  RADAR LOCATION
-  35 MPH SPEED ZONE

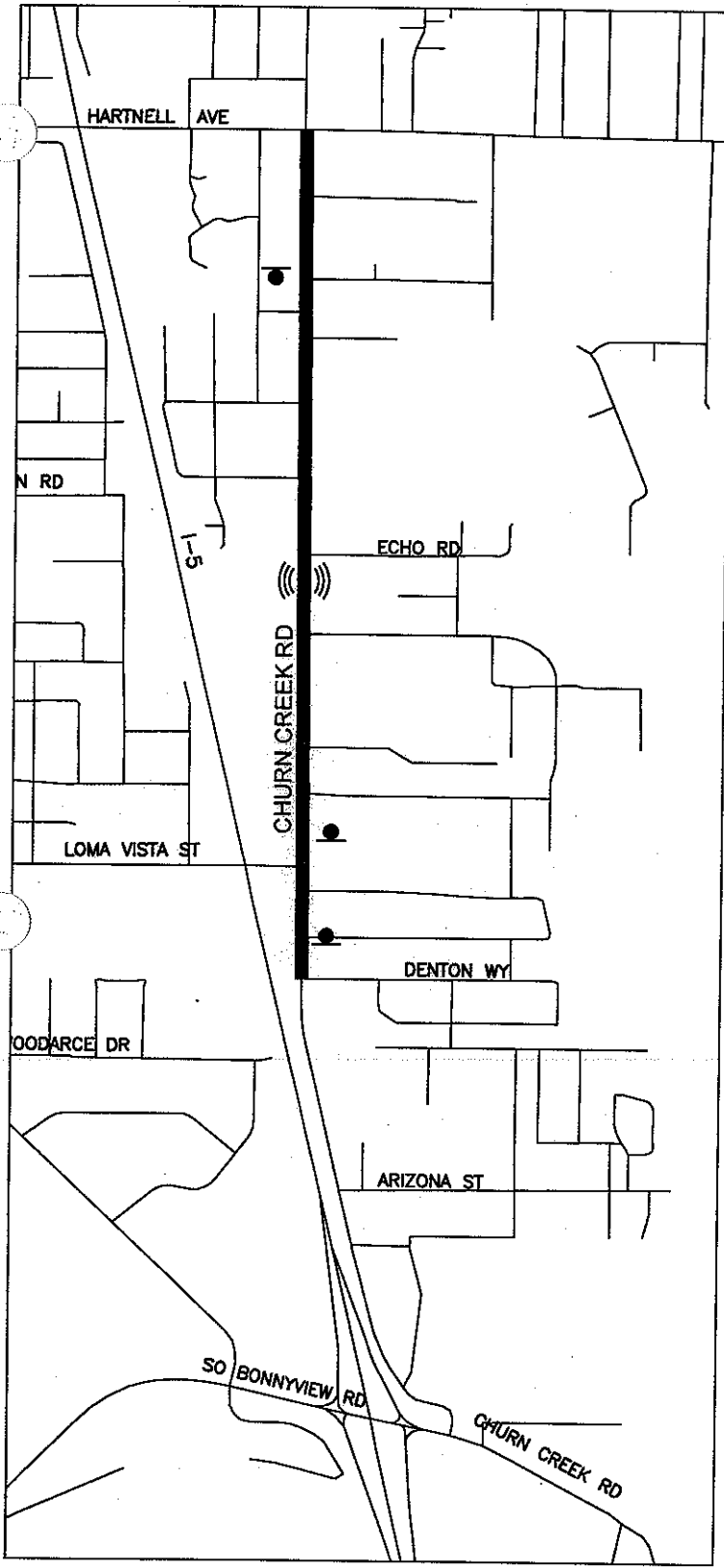
CITY OF REDDING PUBLIC WORKS DEPARTMENT

MAY 2010

**CHURN CREEK RD SPEED STUDY**  
BROWNING ST TO HARTNELL AVE



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Posted Speed: 35		Day: Monday
Weather: Clear & Dry		Date: 1/26/09
Observer: Frank Hogue		Time: 11:15 - 11:55 AM
Critical Speed : 42 mph		Calcs: Otremba
Average Speed : 37.4 mph		
Median Speed : 37 mph		
Standard Deviation: 4.4 mph		
Pace Range : 33 - 43 mph		
Percent in Pace : 80.4%		
Total # Vehicles : 153		

MPH	# of Veh.	Both Directions	%
55			100.0%
54	1	◆	100.0%
53			99.3%
52	1	◆	99.3%
51			98.7%
50			98.7%
49			98.7%
48	1	◆	98.7%
47	2	◆◆	98.0%
46	2	◆◆	96.7%
45	2	◆◆	95.4%
44	2	◆◆	94.1%
43	5	◆◆◆◆◆	92.8%
42	7	◆◆◆◆◆◆◆	89.5%
41	12	◆◆◆◆◆◆◆◆◆◆	85.0%
40	8	◆◆◆◆◆◆◆◆	77.1%
39	13	◆◆◆◆◆◆◆◆◆◆◆	71.9%
38	12	◆◆◆◆◆◆◆◆◆◆	63.4%
37	8	◆◆◆◆◆◆◆◆	52.3%
36	15	◆◆◆◆◆◆◆◆◆◆◆◆◆	43.8%
35	13	◆◆◆◆◆◆◆◆◆◆◆◆	34.0%
34	13	◆◆◆◆◆◆◆◆◆◆◆◆	25.5%
33	12	◆◆◆◆◆◆◆◆◆◆◆◆	17.0%
32	2	◆◆	9.2%
31	6	◆◆◆◆◆◆	7.8%
30	4	◆◆◆◆	3.9%
29	1	◆	1.3%
28			0.7%
27			0.7%
26	1	◆	0.7%
25			0.0%

**LEGEND**

- SPEED LIMIT SIGN
- ( ( )) RADAR LOCATION
- ▬ 35 MPH SPEED ZONE

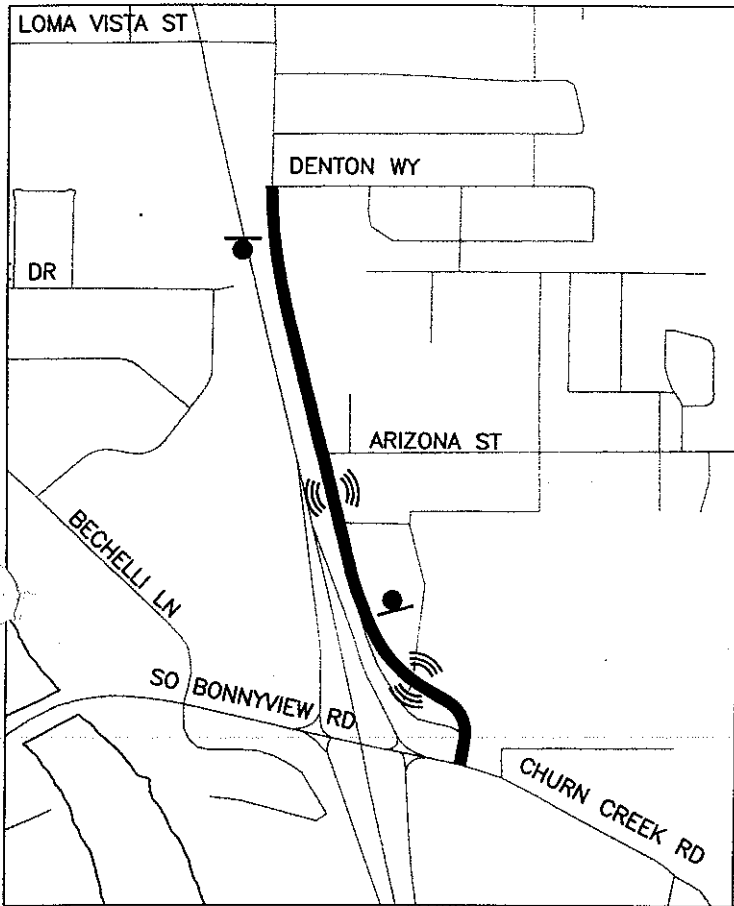
CITY OF REDDING PUBLIC WORKS DEPARTMENT

MAY 2010

**CHURN CREEK RD SPEED STUDY**  
**HARTNELL AVE TO DENTON WAY**



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Posted Speed: 40	Day: Thursday & Friday
Weather: Clear & Dry	Date: 11/4/2009 & 1/16/2009
Observer: Hegue & Lindstrom	Time: 11:00 - 11:56 AM
	Cales: Otomba
Critical Speed: 45	mph
Average Speed: 40.1	mph
Median Speed: 40	mph
Standard Deviation: 4.8	mph
Pace Range: 36 - 46	mph
Percent in Pace: 69.6%	
Total # Vehicles: 334	

MPH	# of Veh.	Both Directions	%
56			100.0%
55	1	*	100.0%
54			99.7%
53			99.7%
52			99.7%
51	1	*	99.7%
50	3	***	99.4%
49	4	****	98.5%
48	8	*****	97.3%
47	16	*****	94.9%
46	12	*****	90.1%
45		*****	82.0%
44	25	*****	74.6%
43	23	*****	67.7%
42	33	*****	57.8%
41	21	*****	45.2%
40		*****	36.2%
39	30	*****	29.3%
38	23	*****	22.8%
37	22	*****	17.1%
36	19	*****	12.9%
35	14	*****	9.3%
34	12	*****	6.3%
33	10	*****	3.9%
32	8	*****	3.0%
31	3	***	1.5%
30	5	*****	0.9%
29	2	**	0.3%
28	2	**	0.0%
27	1	*	
26			

### LEGEND

-  SPEED LIMIT SIGN
-  RADAR LOCATION
-  45 MPH SPEED ZONE

CITY OF REDDING PUBLIC WORKS DEPARTMENT

MAY 2010

# CHURN CREEK RD SPEED STUDY

## DENTON WAY TO S. BONNYVIEW RD

