

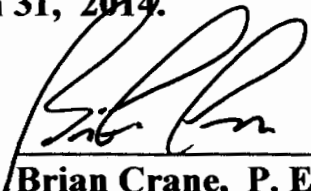


**CITY OF REDDING  
CERTIFIED EXTENSION  
OF  
ENGINEERING AND TRAFFIC SURVEY  
FOR  
HOWARD DRIVE**

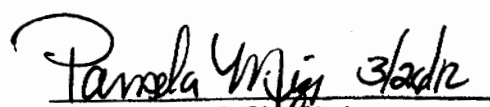
**For the determination of safe and reasonable speed zoning as required by Sections 22358 and 40802 of the California Vehicle Code (CVC), as defined by Section 627 of the CVC and in accordance with Section 2B. 13 of the California Manual on Uniform Traffic Control Devices, this Engineering and Traffic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

**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, a speed zone on Howard Drive of 30 MPH from Sunglow Drive to Marion Court is established, and from Marion Court to Cedars Road is established.**

**This ETS was reviewed by a Registered Engineer and no significant changes in roadway or traffic conditions have occurred, including, but not limited to, changes in adjoining property or land use, roadway width, or traffic volume since the original study date of preparation and is found to be in compliance with CVC 40802, valid until March 31, 2014.**

  
3/26/2012  
\_\_\_\_\_  
Brian Crane, P. E.  
Director of Public Works

ATTEST:

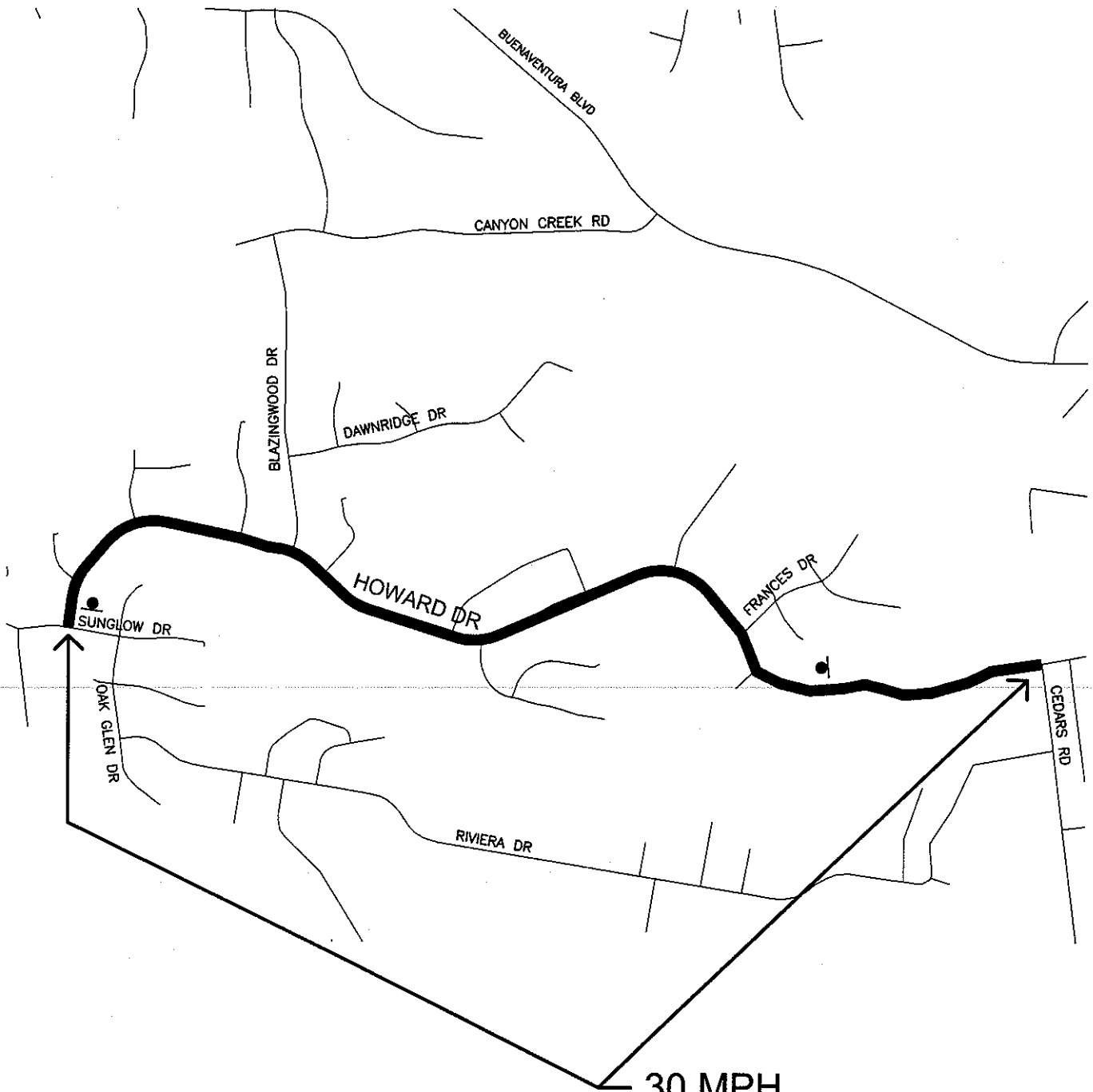
  
3/26/12  
\_\_\_\_\_  
PAMELA MIZE, City Clerk

**HOWARD DRIVE  
MARCH 2004  
CONDITION SUMMARY**

FROM LOCATION TO	SUNGLOW MARION	MARION CEDARS
NO. OF LANES	2	2
ROADWAY WIDTH	35'	35'
ROADWAY LENGTH	1 MI	1,860'
ALIGNMENT HORIZONTAL	CURVES	CURVES
ALIGNMENT VERTICAL	FLAT	STEEP
DISTRICT	RESIDENTIAL	RESIDENTIAL
ADT	2,109	1,991
PEDESTRIANS	MANY	FEW
SIDEWALKS	YES	NONE
DRIVEWAYS	NUMEROUS	FEW
SPEED RELATED ACCIDENTS	NONE	NONE
EXISTING SPEED ZONE	35 MPH	25 MPH
BALL BANK SPEED	N/A	N/A
85TH% SPEED	35 MPH	42 MPH
<b>SURVEY CONCLUSION</b>		
REASONABLE SPEED	30 MPH	*30 MPH
<b>ACTION</b>		
CITY COUNCIL APPROVED	CITY ORDINANCE 2011	CITY ORDINANCE 2011
SIGNS POSTED	9/11/98	9/04

**ADDITIONAL COMMENTS:**

**\* FOR CONSISTENCY - RESIDENTIAL AREA LOCATED BETWEEN A 30 MPH AND A 25 MPH ZONE.**



30 MPH  
SPEED  
ZONE

**LEGEND**

● SPEED LIMIT SIGN

CITY OF REDDING MUNICIPAL UTILITIES TRAFFIC OPERATIONS

**HOWARD DR SPEED STUDY**

SUNGLOW DR TO CEDARS RD



HOWARD DR W/ BLAZINGWOOD

Observer: Lori Lackey

Calcs: Frank Hogue

Posted Speed: 30  
Weather: Sunny & Dry

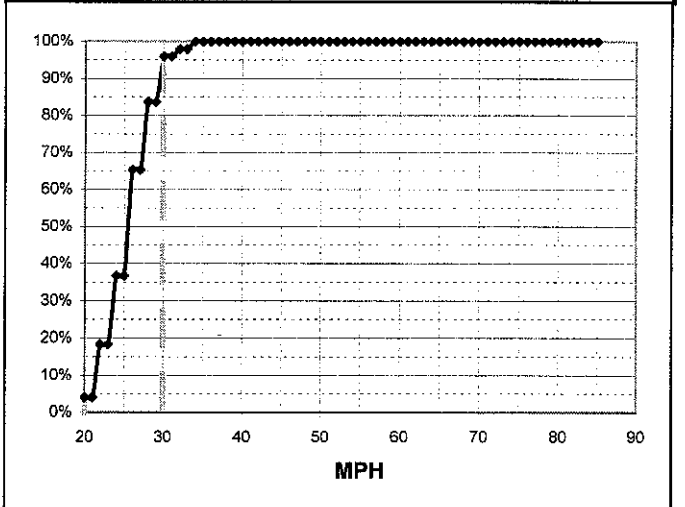
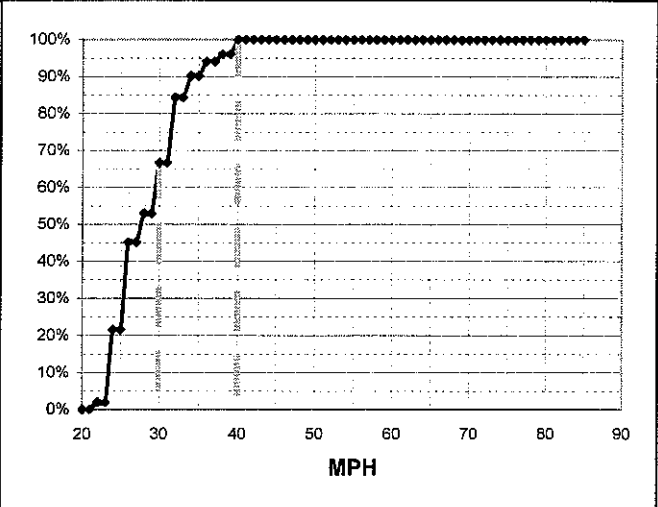
Day: Friday  
Date: 9/5/03  
Time: 10:00 - 10:43

Critical Speed :	34	mph
Average Speed :	28.9	mph
Median Speed :	28	mph
Standard Deviation:	4.4	mph
Pace Range :	30 - 40	mph
Percent in Pace :	43.1%	
Total # Vehicles :	51	

Critical Speed :	30	mph
Average Speed :	26.0	mph
Median Speed :	26	mph
Standard Deviation:	3.0	mph
Pace Range :	20 - 30	mph
Percent in Pace :	18.4%	
Total # Vehicles :	49	

MPH	# of Veh.	Eastbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44			100.0%
43			100.0%
42			100.0%
41			100.0%
40	2	♦♦	100.0%
39			96.1%
38	1	♦	96.1%
37			94.1%
36	2	♦♦	94.1%
35			90.2%
34	3	♦♦♦	90.2%
33			84.3%
32	9	♦♦♦♦♦♦♦♦♦	84.3%
31			66.7%
30	7	♦♦♦♦♦♦♦	66.7%
29			52.9%
28	4	♦♦♦♦	52.9%
27			45.1%
26	12	♦♦♦♦♦♦♦♦♦♦♦♦	45.1%
25			21.6%
24	10	♦♦♦♦♦♦♦♦♦♦	21.6%
23			2.0%
22	1	♦	2.0%
21			0.0%
20			0.0%

MPH	No of Veh.	Westbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44			100.0%
43			100.0%
42			100.0%
41			100.0%
40			100.0%
39			100.0%
38			100.0%
37			100.0%
36			100.0%
35			100.0%
34	1	♦	100.0%
33			98.0%
32	1	♦	98.0%
31			95.9%
30	6	♦♦♦♦♦♦	95.9%
29			83.7%
28	9	♦♦♦♦♦♦♦♦♦	83.7%
27			65.3%
26	14	♦♦♦♦♦♦♦♦♦♦♦♦	65.3%
25			36.7%
24	9	♦♦♦♦♦♦♦♦♦	36.7%
23			18.4%
22	7	♦♦♦♦♦♦♦	18.4%
21			4.1%
20	2	♦♦	4.1%



HOWARD DR W/ CRYSTAL TREE DR

Day: **Wednesday**

Date: **10/1/03**

Time: **08:45 - 09:45**

Posted Speed: **30**

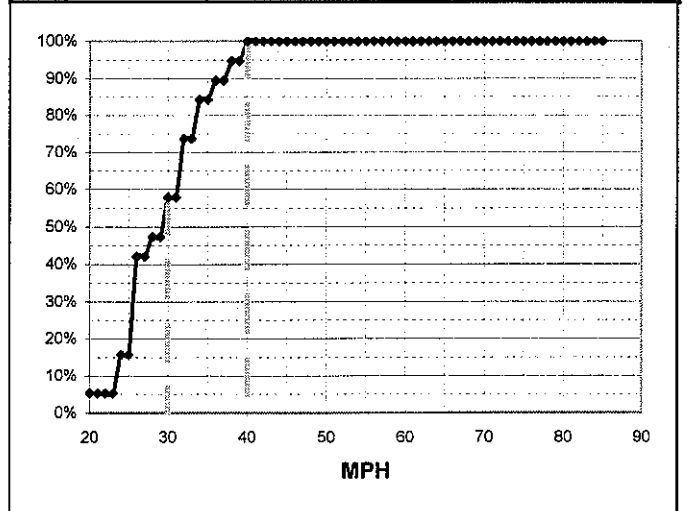
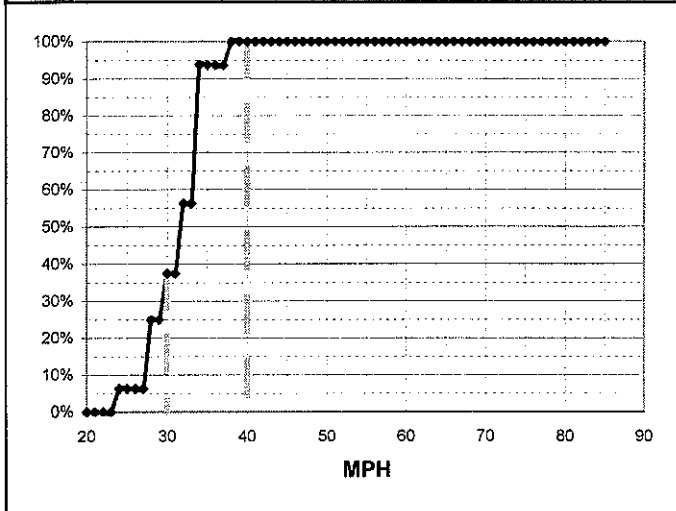
Weather: **Sunny & Dry**

Observer: **Lori Lackey**

Calcs: **Frank Hogue**

MPH	# of Veh.	Eastbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44			100.0%
43			100.0%
42			100.0%
41			100.0%
40			100.0%
39			100.0%
38	1	◆	100.0%
37			93.8%
36			93.8%
35			93.8%
34	6	◆◆◆◆◆◆	93.8%
33			56.3%
32	3	◆◆◆	56.3%
31			37.5%
30	2	◆◆	37.5%
29			25.0%
28	3	◆◆◆	25.0%
27			6.3%
26			6.3%
25			6.3%
24	1	◆	6.3%
23			0.0%
22			0.0%
21			0.0%
20			0.0%

MPH	No of Veh.	Westbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44			100.0%
43			100.0%
42			100.0%
41			100.0%
40	1	◆	100.0%
39			94.7%
38	1	◆	94.7%
37			89.5%
36	1	◆	89.5%
35			84.2%
34	2	◆◆	84.2%
33			73.7%
32	3	◆◆◆	73.7%
31			57.9%
30	2	◆◆	57.9%
29			47.4%
28	1	◆	47.4%
27			42.1%
26	5	◆◆◆◆◆	42.1%
25			15.8%
24	2	◆◆	15.8%
23			5.3%
22			5.3%
21			5.3%
20	1	◆	5.3%



HOWARD DR W/ FRANCES DR

Observer: Lori Lackey

Calcs: Frank Hogue

Posted Speed: 30  
Weather: Sunny & Dry

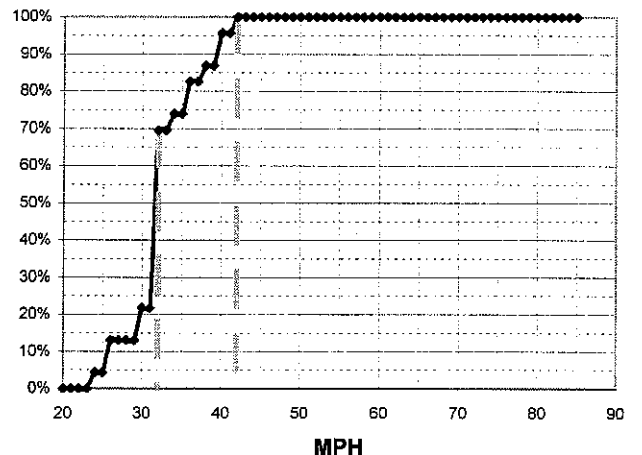
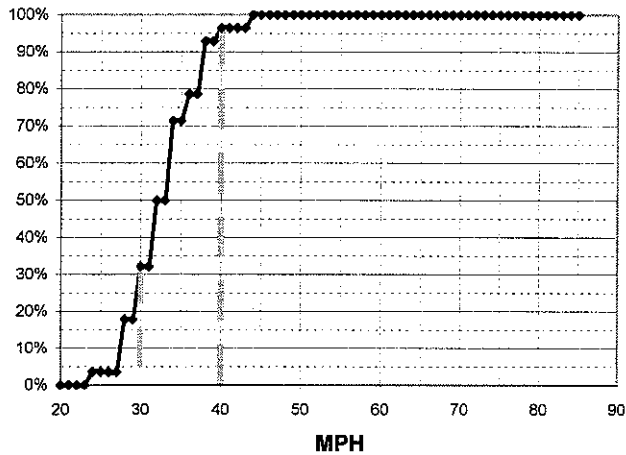
Day: Thursday  
Date: 9/4/03  
Time: 10:15 - 11:15

Critical Speed :	38	mph
Average Speed :	33.1	mph
Median Speed :	0	mph
Standard Deviation:	4.3	mph
Pace Range :	30 - 40	mph
Percent in Pace :	75.0%	
Total # Vehicles :	28	

Critical Speed :	38	mph
Average Speed :	32.8	mph
Median Speed :	32	mph
Standard Deviation:	4.3	mph
Pace Range :	32 - 42	mph
Percent in Pace :	73.9%	
Total # Vehicles :	23	

MPH	# of Veh.	Eastbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44	1	♦	100.0%
43			96.4%
42			96.4%
41			96.4%
40	1	♦	96.4%
39			92.9%
38	4	♦♦♦♦	92.9%
37			78.6%
36	2	♦♦	78.6%
35			78.6%
34	6	♦♦♦♦♦♦	71.4%
33			50.0%
32	5	♦♦♦♦♦	50.0%
31			32.1%
30	4	♦♦♦♦	32.1%
29			17.9%
28	4	♦♦♦♦	17.9%
27			3.6%
26			3.6%
25			3.6%
24	1	♦	3.6%
23			0.0%
22			0.0%
21			0.0%
20			0.0%

MPH	No of Veh.	Westbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46			100.0%
45			100.0%
44			100.0%
43			100.0%
42	1	♦	100.0%
41			95.7%
40	2	♦♦	95.7%
39			87.0%
38	1	♦	87.0%
37			82.6%
36	2	♦♦	82.6%
35			73.9%
34	1	♦	73.9%
33			69.6%
32	11	♦♦♦♦♦♦♦♦♦♦	69.6%
31			21.7%
30	2	♦♦	21.7%
29			13.0%
28			13.0%
27			13.0%
26	2	♦♦	13.0%
25			4.3%
24	1	♦	4.3%
23			0.0%
22			0.0%
21			0.0%
20			0.0%



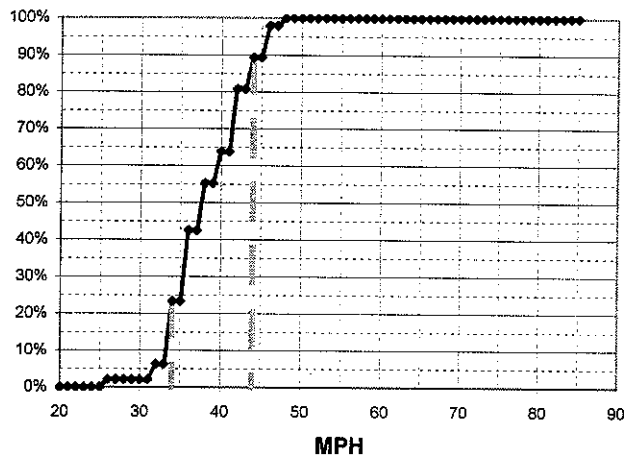
HOWARD DR W/ CEDARS RD

Observer: Lori Lackey

Calcs: Frank Hogue

Critical Speed :	44	mph
Average Speed :	38.7	mph
Median Speed :	38	mph
Standard Deviation:	4.6	mph
Pace Range :	34 - 44	mph
Percent in Pace :	74.5%	
Total # Vehicles :	47	

MPH	# of Veh.	Eastbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48	1	◆	100.0%
47	4	◆◆◆◆	97.9%
46	4	◆◆◆◆	97.9%
45	4	◆◆◆◆	89.4%
44	4	◆◆◆◆	89.4%
43	8	◆◆◆◆◆◆◆◆	80.9%
42	8	◆◆◆◆◆◆◆◆	80.9%
41	4	◆◆◆◆	63.8%
40	4	◆◆◆◆	63.8%
39	6	◆◆◆◆◆◆	55.3%
38	6	◆◆◆◆◆◆	55.3%
37	9	◆◆◆◆◆◆◆◆	42.6%
36	9	◆◆◆◆◆◆◆◆	42.6%
35	8	◆◆◆◆◆◆◆◆	23.4%
34	8	◆◆◆◆◆◆◆◆	23.4%
33			6.4%
32	2	◆◆	6.4%
31			2.1%
30			2.1%
29			2.1%
28			2.1%
27			2.1%
26	1	◆	2.1%
25			0.0%
24			0.0%
23			0.0%
22			0.0%
21			0.0%
20			0.0%



Day: Wednesday Tuesday  
 Date: 2/10/04  
 Time: 09:40 - 10:40

Posted Speed: 25  
 Weather: Sunny & Dry

Critical Speed :	42	mph
Average Speed :	36.7	mph
Median Speed :	36	mph
Standard Deviation:	4.8	mph
Pace Range :	36 - 46	mph
Percent in Pace :	62.1%	
Total # Vehicles :	29	

MPH	No of Veh.	Westbound	%
85			100.0%
84			100.0%
83			100.0%
82			100.0%
81			100.0%
80			100.0%
79			100.0%
78			100.0%
77			100.0%
76			100.0%
75			100.0%
74			100.0%
73			100.0%
72			100.0%
71			100.0%
70			100.0%
69			100.0%
68			100.0%
67			100.0%
66			100.0%
65			100.0%
64			100.0%
63			100.0%
62			100.0%
61			100.0%
60			100.0%
59			100.0%
58			100.0%
57			100.0%
56			100.0%
55			100.0%
54			100.0%
53			100.0%
52			100.0%
51			100.0%
50			100.0%
49			100.0%
48			100.0%
47			100.0%
46	1	◆	100.0%
45	1	◆	96.6%
44	2	◆◆	96.6%
43	4	◆◆◆◆	89.7%
42	4	◆◆◆◆	89.7%
41	4	◆◆◆◆	75.9%
40	4	◆◆◆◆	75.9%
39			62.1%
38	1	◆	62.1%
37			58.6%
36	7	◆◆◆◆◆◆◆	58.6%
35			34.5%
34	1	◆	34.5%
33			31.0%
32	4	◆◆◆◆	31.0%
31			17.2%
30	5	◆◆◆◆◆	17.2%
29			0.0%
28			0.0%
27			0.0%
26			0.0%
25			0.0%
24			0.0%
23			0.0%
22			0.0%
21			0.0%
20			0.0%

