



# County of Santa Cruz

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## DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070  
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THOMAS L. BOLICH  
DIRECTOR OF PUBLIC WORKS

# TRAFFIC AND ENGINEERING REPORT

MARCH 2009



# County of Santa Cruz

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## DEPARTMENT OF PUBLIC WORKS

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DIRECTOR OF PUBLIC WORKS

March 11, 2009

SUBJECT: TRAFFIC AND ENGINEERING REPORT MARCH 2009

To Whom It May Concern:

This traffic and engineering report was prepared in accordance with Vehicle Code Section 40803 to allow the use of radar for speed enforcement purposes. The recommended safe speeds were determined utilizing the prevailing 85th percentile speeds combined with traffic engineering judgment to match existing conditions with the traffic safety needs of the community. Accident statistics indicate that unsafe speed is the highest single primary collision factor on roadways, and adherence to safe speeds should result in a substantial reduction in vehicle accidents.

Yours truly,

THOMAS L. BOLICH  
Director of Public Works

RR:mh

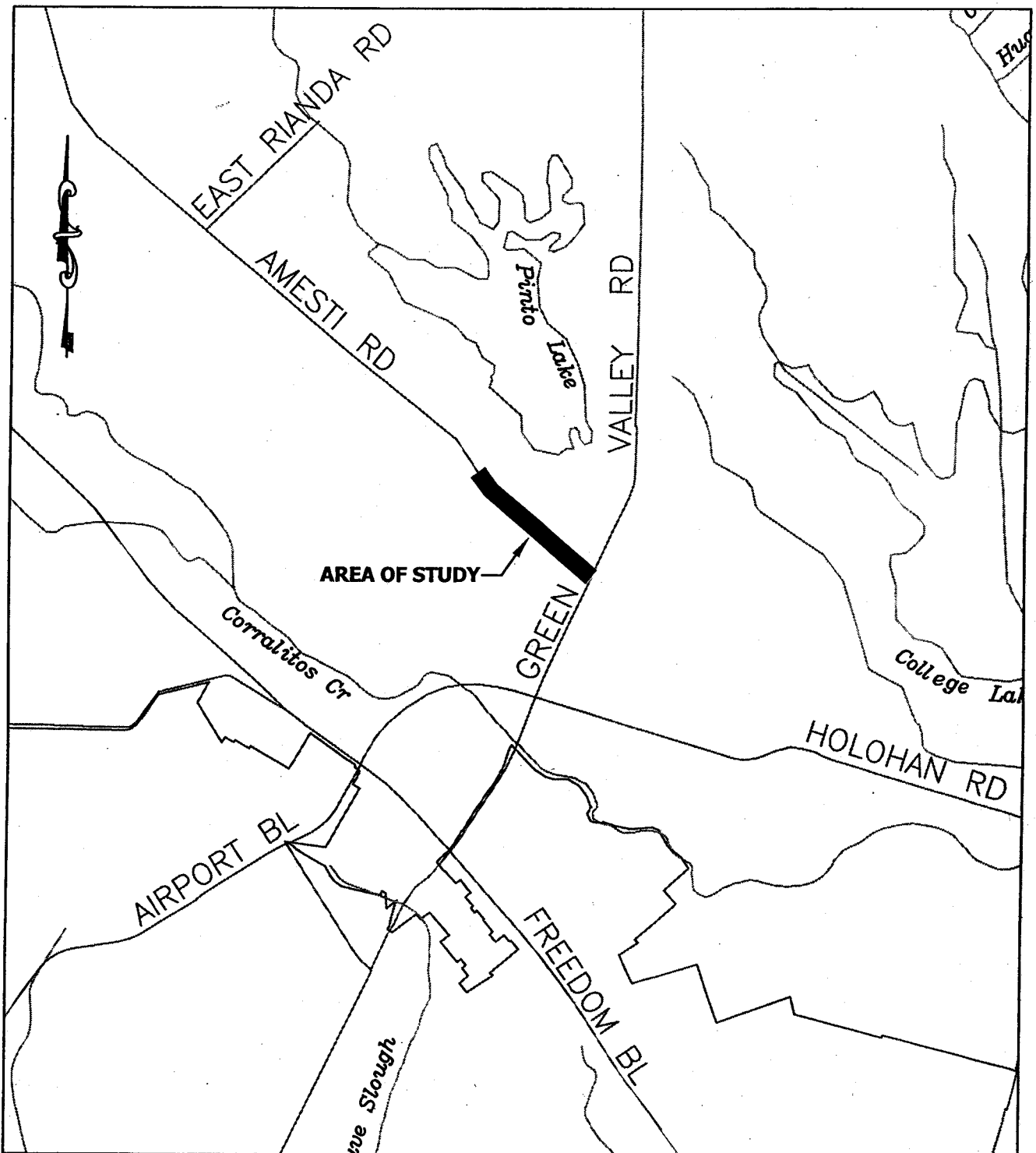
Attachment

# TRAFFIC AND ENGINEERING REPORT

March, 2009

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**SANTA CRUZ COUNTY TRAFFIC ENGINEERING  
RADAR SPEED SURVEY  
AMESTI ROAD  
GREEN VALLEY ROAD TO 0.4 MILES NORTH**

**MARCH 2009**

TRAFFIC AND ENGINEERING REPORT  
MARCH 2009

PURPOSE:

This survey is performed in accordance with Vehicle Code Section 40803 to allow the use of radar for enforcement purposes.

LOCATION:

Amesti Road between Green Valley Road and 0.4 miles northwesterly. (Speed Data collected at Amesti Elementary School).

PREVAILING SPEED DATA:

The existing posted speed limit is 25 MPH and is radar enforced.

The prevailing speeds are:

Direction	Westbound	Eastbound
85 <sup>th</sup> Percentile	31 mph	31 mph
Pace Speed	22-32 mph	22-32 mph
Average Speed	27.11 mph	27.01 mph

ANALYSIS:

The prevailing 85<sup>th</sup> percentile speeds are 31 MPH in both directions of travel. The safe speed is established at or near the average 85<sup>th</sup> percentile which is calculated to be 30 MPH. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment as provided for in the California Manual on Uniform Traffic Control Devices indicates a further reduction of five miles per hour to 25 MPH. The factors justifying a further reduction are a prima facie 25 MPH residential district, adjacent to an elementary school and numerous driveways. It is recommended that the existing 25 MPH speed limit remain with enforcement activity taking place at speeds above the safe speed.

## RADAR SPEED SURVEY

		<u>MPH</u>	<u># of Vehicles</u>		<u>Percentage</u>
<b>Route:</b>	<b>Amesti Road</b>				
<b>From:</b>	<b>Green Valley Rd.</b>	<b>35</b>	<b>1</b>	◆	<b>100.0%</b>
<b>To:</b>	<b>0.4 miles northwesterly</b>	<b>34</b>	<b>1</b>	◆	<b>98.7%</b>
<b>Direction:</b>	<b>Westbound</b>	<b>33</b>	<b>1</b>	◆	<b>97.4%</b>
<b>Weather:</b>	<b>Sunny/Cloudy</b>	<b>32</b>	<b>6</b>	◆◆◆◆◆◆	<b>96.1%</b>
<b>Posted Speed:</b>	<b>25</b>	<b>31</b>	<b>8</b>	◆◆◆◆◆◆◆◆	<b>88.2%</b>
<b>Begin time:</b>	<b>2:10 PM</b>	<b>30</b>	<b>4</b>	◆◆◆◆	<b>77.6%</b>
<b>End time:</b>	<b>3:00 PM</b>	<b>29</b>	<b>4</b>	◆◆◆◆	<b>72.4%</b>
		<b>28</b>	<b>5</b>	◆◆◆◆◆	<b>67.1%</b>
		<b>27</b>	<b>12</b>	◆◆◆◆◆◆◆◆◆◆◆◆	<b>60.5%</b>
		<b>26</b>	<b>7</b>	◆◆◆◆◆◆◆	<b>44.7%</b>
		<b>25</b>	<b>8</b>	◆◆◆◆◆◆◆◆	<b>35.5%</b>
		<b>24</b>	<b>8</b>	◆◆◆◆◆◆◆◆	<b>25.0%</b>
		<b>23</b>	<b>3</b>	◆◆◆	<b>14.5%</b>
		<b>22</b>	<b>7</b>	◆◆◆◆◆◆◆	<b>10.5%</b>
		<b>21</b>	<b>1</b>	◆	<b>1.3%</b>
<b>CRITICAL SPEED</b>	<b>31</b>	<b>20</b>	<b>0</b>		<b>0.0%</b>
<b>AVERAGE SPEED</b>	<b>27.11</b>	<b>19</b>	<b>0</b>		<b>0.0%</b>
<b>MEDIAN SPEED</b>	<b>27.0</b>	<b>18</b>	<b>0</b>		<b>0.0%</b>
<b>STANDARD DEVIATION</b>	<b>3.37</b>	<b>17</b>	<b>0</b>		<b>0.0%</b>
<b>PACE RANGE</b>	<b>22 - 32</b>	<b>16</b>	<b>0</b>		<b>0.0%</b>
<b>PERCENTAGE IN PACE</b>	<b>86.8%</b>	<b>15</b>	<b>0</b>		<b>0.0%</b>
<b>TOTAL # OF AUTOS</b>	<b>76</b>				

## RADAR SPEED SURVEY

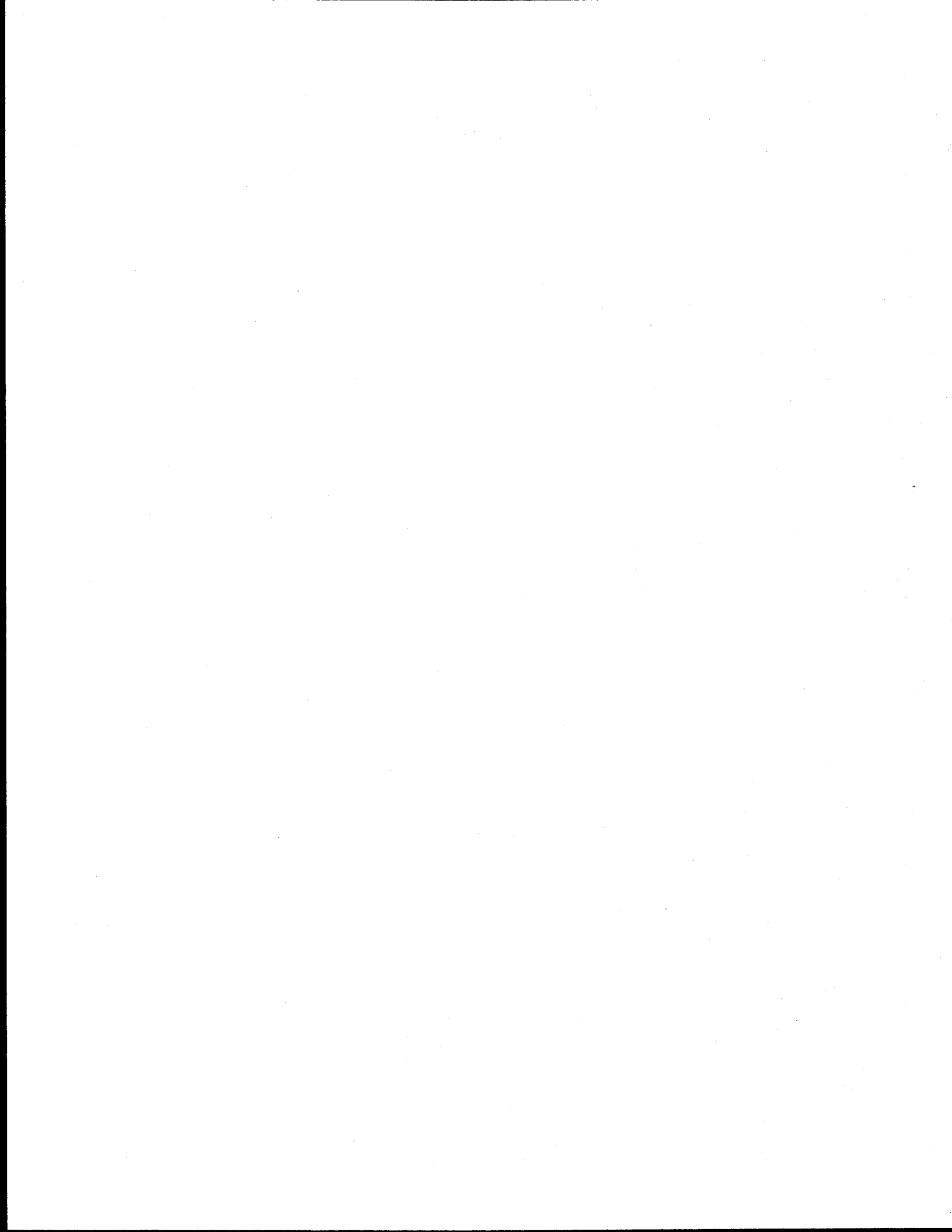
		<u>MPH</u>	<u># of Vehicles</u>		<u>Percentage</u>
Route:	Arnesti Road				
From:	0.4 miles northwesterly	38	1	◆	100.0%
To:	Green Valley Rd.	37	0		98.7%
Direction:	Eastbound	36	0		98.7%
Weather:	Sunny/Cloudy	35	3	◆◆◆	98.7%
Posted Speed:	25	34	1	◆	94.8%
Begin time:	2:10 PM	33	2	◆◆	93.5%
End time:	3:00 PM	32	2	◆◆	90.9%
		31	7	◆◆◆◆◆◆◆	88.3%
		30	3	◆◆◆	79.2%
		29	6	◆◆◆◆◆◆	75.3%
		28	7	◆◆◆◆◆◆◆	67.5%
		27	7	◆◆◆◆◆◆◆	58.4%
		26	6	◆◆◆◆◆◆	49.4%
		25	11	◆◆◆◆◆◆◆◆◆◆◆	41.6%
		24	6	◆◆◆◆◆◆	27.3%
CRITICAL SPEED	31	23	6	◆◆◆◆◆◆	19.5%
AVERAGE SPEED	27.01	22	5	◆◆◆◆◆	11.7%
MEDIAN SPEED	27.0	21	4	◆◆◆◆◆	5.2%
STANDARD DEVIATION	3.84	20	0		0.0%
PACE RANGE	22 - 32	19	0		0.0%
PERCENTAGE IN PACE	83.1%	18	0		0.0%
TOTAL # OF AUTOS	77	17	0		0.0%
		16	0		0.0%
		15	0		0.0%

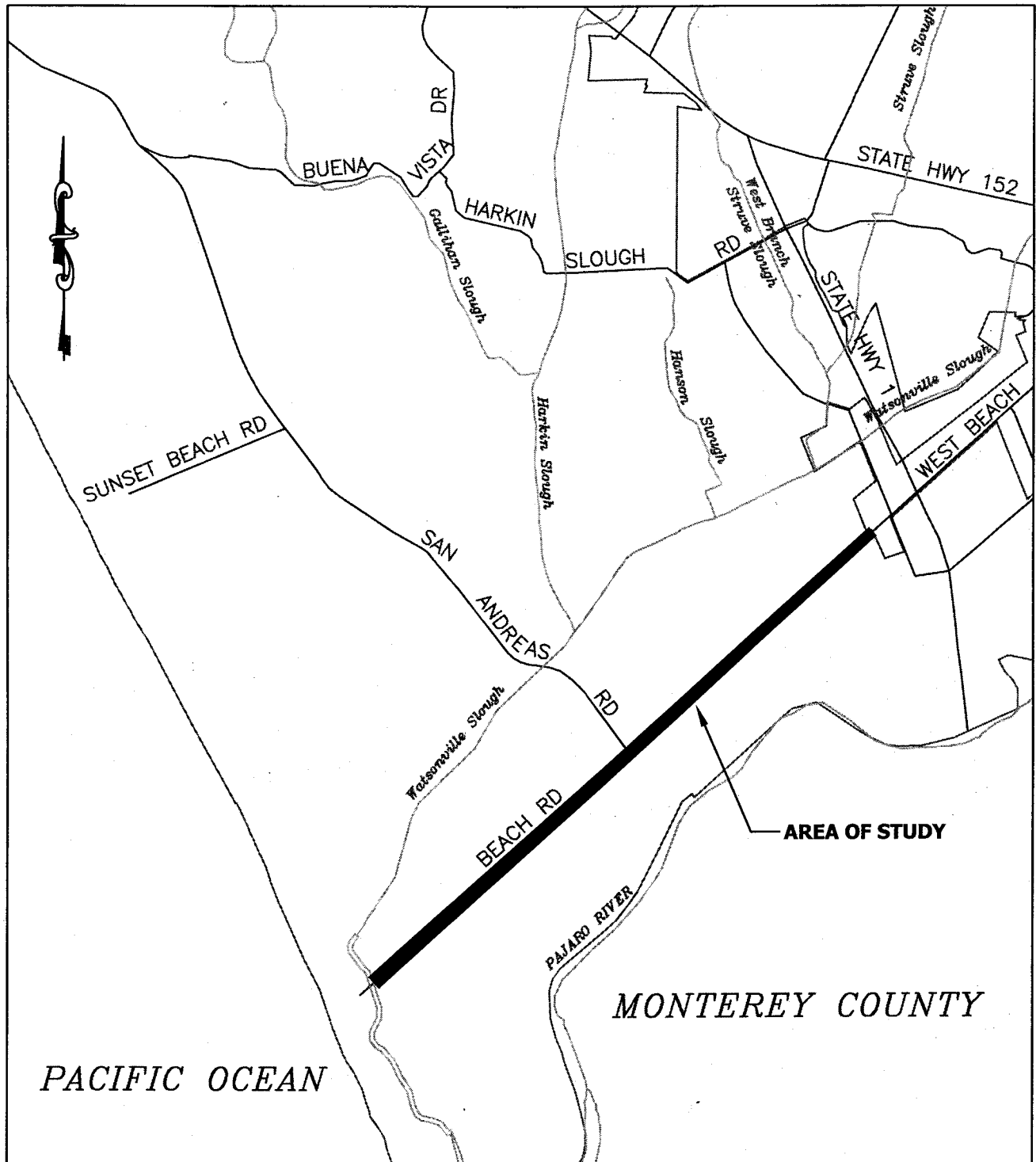
**RADAR SPEED SURVEY**  
 Santa Cruz County  
 Department of Public Works

LOCATION AMESTI ROAD (@ AMESTI ELEM. SCHOOL) BY JGL  
 ROAD NO \_\_\_\_\_ DATE 9.15.08 DAY MONDAY BEGIN 2:10 END 3:00  
 POSTED SPEED 25 MPH WEATHER SUNNY / CLOUDY  
 NUMBER OF LANES 2 GRADE FLAT CALIBRATED ✓

NUMBER OF VEHICLES

MPH	DIRECTION		TOTAL OF EACH SPEED	DIRECTION		TOTAL OF EACH SPEED
	EAST →	TO GREEN VALLEY		WEST ←	FROM GREEN VALLEY	
60						
59						
58						
57						
56						
55						
54						
53						
52						
51						
50						
49						
48						
47						
46						
45						
44						
43						
42						
41						
40						
39						
38			1			
37			0			
36			0			
35			3			1
34			1			1
33			2			1
32			2	<del>  </del> -		6
31	<del>  </del> -		7	<del>  </del> -		8
30			3	<del>  </del>		4
29	<del>  </del> -		6	<del>  </del>		4
28	<del>  </del> -		7	<del>  </del> -		5
27	<del>  </del> -		7	<del>  </del> - <del>  </del> -		12
26	<del>  </del> -		6	<del>  </del> -		7
25	<del>  </del> - <del>  </del> -		11	<del>  </del> -		8
24	<del>  </del> -		6	<del>  </del> -		8
23	<del>  </del>		5	<del>  </del>		3
22			4	<del>  </del> -		7
21						1
20						
<b>TOTAL</b>			<b>77</b>	<b>TOTAL</b>		<b>76</b>





**SANTA CRUZ COUNTY TRAFFIC ENGINEERING  
 RADAR SPEED SURVEY  
 BEACH ROAD  
 WATSONVILLE CITY LIMITS TO THE END  
 AT SUNSET BEACH**

**MARCH 2009**

TRAFFIC AND ENGINEERING REPORT  
MARCH 2009

PURPOSE:

This survey is performed in accordance with Vehicle Code Section 40803 to allow the use of radar for enforcement purposes.

LOCATION:

Beach Road from the Watsonville City Limit to the end at Sunset Beach. (Speed Data collected at Thurwachter Road).

PREVAILING SPEED DATA:

The existing posted speed limit is 45 mph and is radar enforced.

The prevailing speeds are:

Direction	Westbound	Eastbound
85 <sup>th</sup> Percentile	47 mph	46 mph
Pace Speed	38-48 mph	34-44 mph
Average Speed	41.87 mph	39.93 mph

ANALYSIS:

The prevailing 85<sup>th</sup> percentile speeds are 47 MPH and 46 MPH depending on the direction of travel. The safe speed is established at or near the average 85<sup>th</sup> percentile which is calculated to be 45 MPH. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment as provided for in the California Manual on Uniform Traffic Control Devices indicates a further reduction of five miles per hour to 40 MPH. The factors justifying a further reduction are tourist area with State Park beaches, an agricultural area with farm equipment and produce trucks, and bicycle traffic without bike lanes or shoulders. It is recommended that the existing 45 MPH speed limit be decreased to 40 MPH with enforcement activity taking place at speeds above the safe speed.

## RADAR SPEED SURVEY

**Route:** Beach Road  
**From:** Watsonville City Limits  
**To:** End of Beach Road  
**Direction:** Eastbound  
**Weather:** Cloudy  
**Posted Speed:** 45 MPH  
**Begin time:** 9:00AM  
**End time:** 10:15 AM

**CRITICAL SPEED**  
**AVERAGE SPEED**  
**MEDIAN SPEED**  
**STANDARD DEVIATION**  
**PACE RANGE**  
**PERCENTAGE IN PACE**  
**TOTAL # OF AUTOS**

46  
 39.93  
 40.0  
 5.28  
 34 - 44  
 67.4%  
 86

<u>MPH</u>	<u># of Vehicles</u>	<u>Percentage</u>
52	1 ♦	100.0%
51	1 ♦	98.8%
50	1 ♦	97.7%
49	2 ♦♦	96.5%
48	3 ♦♦♦	94.2%
47	3 ♦♦♦	90.7%
46	3 ♦♦♦	87.2%
45	1 ♦	83.7%
44	5 ♦♦♦♦♦	82.6%
43	8 ♦♦♦♦♦♦♦♦	76.7%
42	9 ♦♦♦♦♦♦♦♦♦	67.4%
41	5 ♦♦♦♦♦	57.0%
40	2 ♦♦	51.2%
39	4 ♦♦♦♦	48.8%
38	7 ♦♦♦♦♦♦♦	44.2%
37	7 ♦♦♦♦♦♦♦	36.0%
36	5 ♦♦♦♦♦	27.9%
35	4 ♦♦♦♦	22.1%
34	7 ♦♦♦♦♦♦♦	17.4%
33	3 ♦♦♦	9.3%
32	1 ♦	5.8%
31	0	4.7%
30	3 ♦♦♦	4.7%
29	0	1.2%
28	1 ♦	1.2%

## RADAR SPEED SURVEY

**Route:** Beach Road  
**From:** Watsonville City Limits  
**To:** End of Beach Road  
**Direction:** Westbound  
**Weather:** Cloudy  
**Posted Speed:** 45 MPH  
**Begin time:** 9:00AM  
**End time:** 10:15 AM

**CRITICAL SPEED**  
**AVERAGE SPEED**  
**MEDIAN SPEED**  
**STANDARD DEVIATION**  
**PACE RANGE**  
**PERCENTAGE IN PACE**  
**TOTAL # OF AUTOS**

47  
 41.87  
 42.0  
 5.07  
 38 - 48  
 66.7%  
 75

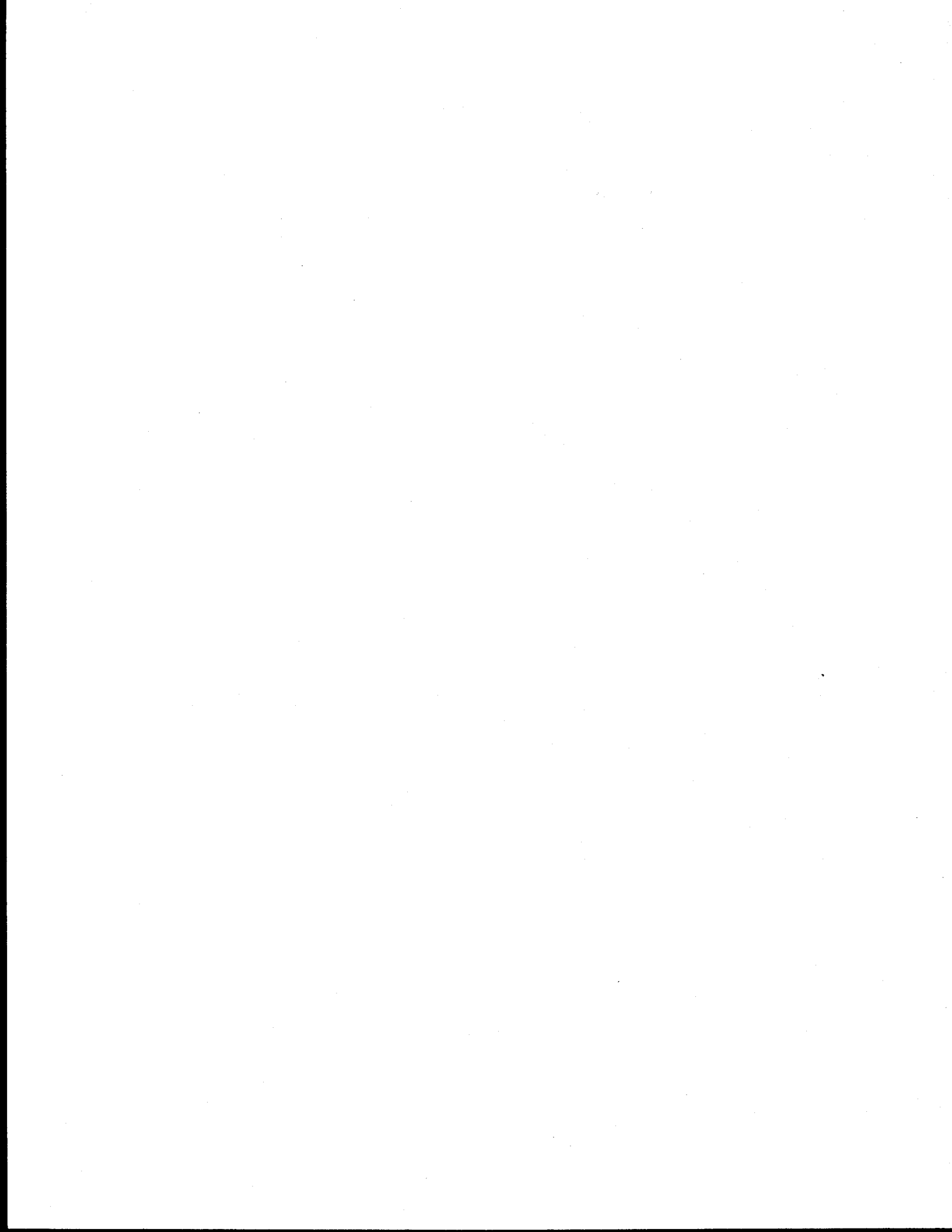
<u>MPH</u>	<u># of Vehicles</u>	<u>Percentage</u>
54	1 ♦	100.0%
53	0	98.7%
52	0	98.7%
51	1 ♦	98.7%
50	2 ♦♦	97.3%
49	3 ♦♦♦	94.7%
48	4 ♦♦♦♦	90.7%
47	4 ♦♦♦♦	85.3%
46	4 ♦♦♦♦	80.0%
45	6 ♦♦♦♦♦♦	74.7%
44	7 ♦♦♦♦♦♦♦	66.7%
43	3 ♦♦♦	57.3%
42	4 ♦♦♦♦	53.3%
41	4 ♦♦♦♦	48.0%
40	7 ♦♦♦♦♦♦♦	42.7%
39	5 ♦♦♦♦♦	33.3%
38	6 ♦♦♦♦♦♦	26.7%
37	1 ♦	18.7%
36	2 ♦♦	17.3%
35	4 ♦♦♦♦	14.7%
34	5 ♦♦♦♦♦	9.3%
33	0	2.7%
32	1 ♦	2.7%
31	1 ♦	1.3%

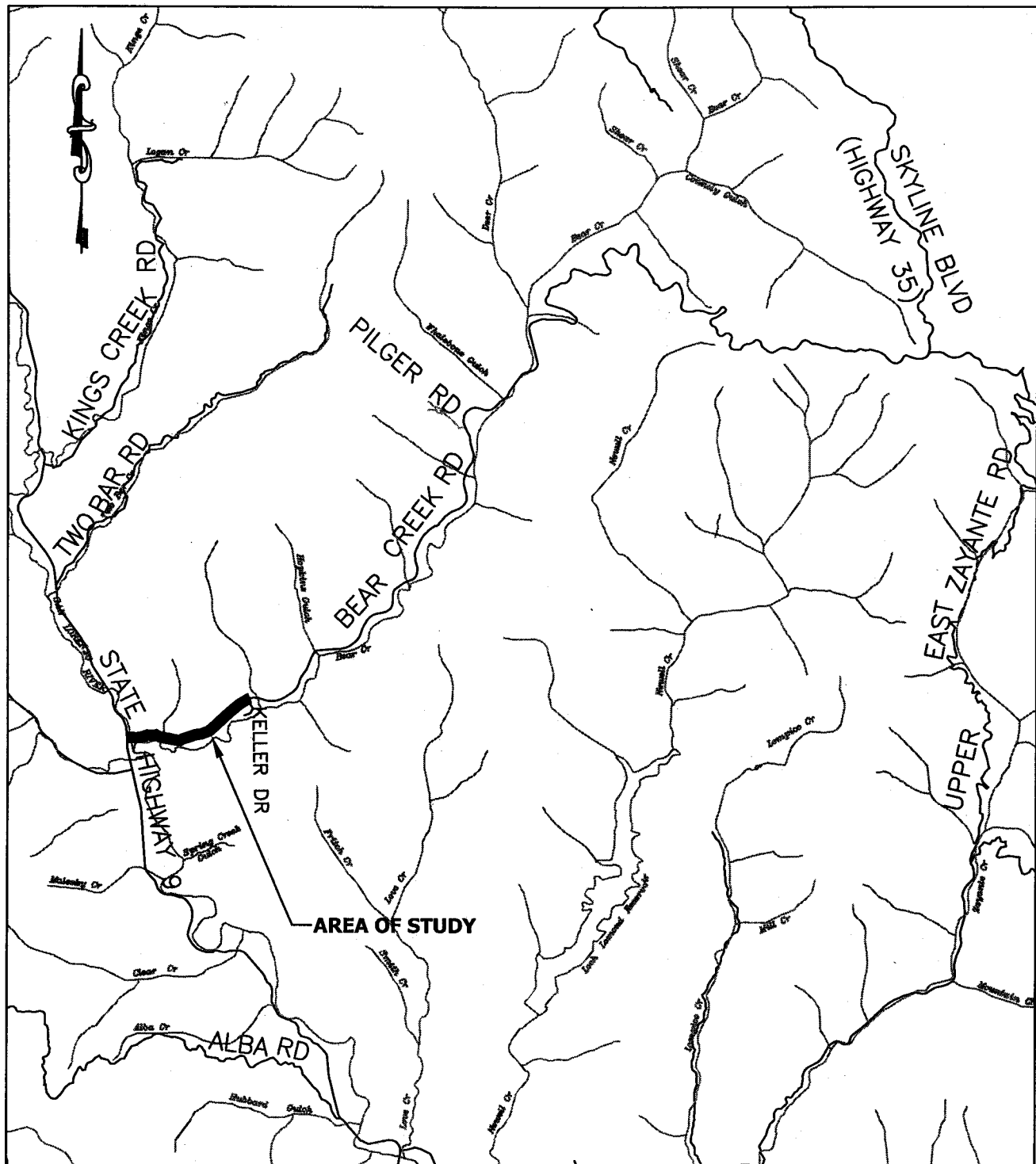
RADAR SPEED SURVEY  
 Santa Cruz County  
 Department of Public Works

LOCATION BEACH RD (@ THURWACHTER RD) BY JGL  
 ROAD NO \_\_\_\_\_ DATE 6-9-08 DAY WED BEGIN 9:00 AM END 10:15 AM  
 POSTED SPEED 45 MPH WEATHER CLOUDY  
 NUMBER OF LANES 2 GRADE FLAT CALIBRATED

NUMBER OF VEHICLES

MPH	DIRECTION W ← TO SAN ANDREAS	TOTAL OF EACH SPEED	DIRECTION TO WATSONVILLE → E	TOTAL OF EACH SPEED
60				
59				
58				
57				
56				
55				
54				
53		1		
52		0		
51		0		1
50		1		1
49		2		1
48		3		2
47		4		3
46		4		3
45		4		3
44		6		1
43		7		5
42		3		8
41		4		9
40		4		5
39		7		2
38		5		4
37		6		7
36		1		7
35		2		5
34		4		4
33		2		7
32		0		3
31		1		1
30		1		0
29				3
28				0
27				1
26				
25				
24				
23				
22				
21				
20				
TOTAL		75	TOTAL 86	





**SANTA CRUZ COUNTY TRAFFIC ENGINEERING**  
**RADAR SPEED SURVEY**  
**BEAR CREEK ROAD**  
**STATE HIGHWAY 9 TO KELLER DRIVE**

**MARCH 2009**

TRAFFIC AND ENGINEERING REPORT  
MARCH 2009

PURPOSE:

This survey is performed in accordance with Vehicle Code Section 40803 to allow the use of radar for enforcement purposes.

LOCATION:

Bear Creek Road from Highway 9 to Keller Drive (west).  
(Speed Data collected at Huckleberry Lane intersection).

PREVAILING SPEED DATA:

The existing speed limit is 30 MPH and is radar enforced.

The prevailing speeds are:

Direction	Northbound	Southbound
85 <sup>th</sup> Percentile	33 mph	36 mph
Pace Speed	25-35 mph	27-37 mph
Average Speed	29.33 mph	32.79 mph

ANALYSIS:

The prevailing 85<sup>th</sup> percentile speeds are 36 MPH and 33 MPH depending on the direction of travel. The safe speed is established at or near the average 85<sup>th</sup> percentile which is calculated to be 35 MPH. However, in matching existing conditions with the traffic safety needs of the community, engineering judgment as provided for in the California Manual on Uniform Traffic Control Devices indicates a further reduction of five miles per hour to 30 MPH. The factors justifying a further reduction are recent accident record, safe stopping sight distance, commute route, major arterial, intersection configurations and shoulder conditions with school children and other pedestrian traffic in the roadway without sidewalks. It is recommended that the existing 30 MPH speed limit remain with enforcement activity taking place at speeds above the safe speed.