



SPEED ZONE SURVEY

GREENSTONE ROAD

(No. 7)

From Mother Lode Drive (No. 240) to US Hwy 50 EB On/Off Ramps

Reviewed by the Traffic Advisory Committee on MAY 04 2016

COMMITTEE APPROVED STAFF'S RECOMMENDATION.

COMMITTEE REQUESTED FURTHER ACTION.

Action: COMMITTEE AMENDED STAFF'S RECOMMENDATION, APPROVING THE ESTABLISHMENT OF A FORTY-FIVE (45) MILE PER HOUR SPEED ZONE ON GREENSTONE ROAD, FROM 750 FEET SOUTH OF DAVIDSON ROAD NORTHERLY TO THE US HWY 50 EB ON/OFF RAMPS.

TRANSPORTATION DIVISION
ENGINEERING AND TRAFFIC SURVEY

Location: Greenstone Road (No. 7) from Mother Lode Drive (No. 240) to the US Hwy 50 EB On/Off Ramps.

Subject: Speed Zone Survey

Date: December 22, 2015

REQUEST REFERENCE:

In September of 2015, the Division of Transportation received a request from 26 residents in the vicinity Greenstone Road, South of US Highway 50, primarily requesting the posting of a Speed Limit, anywhere from 30-40 MPH on this portion of Greenstone Road. Some of these neighbors also expressed the need for a posted speed limit at the October 2015 Traffic Advisory Meeting. In addition, a few requests were made by the neighboring residents for an All Way Stop at the Davidson Road intersection. However, due to insufficient number of accidents and traffic volumes (Davidson Road), an All Way Stop is not warranted at this intersection and will not be analyzed as part of this Study. Currently, no posted speed zone exists on this portion of Greenstone Road.

This study is limited to determining the appropriate speed limit for this portion of Greenstone Road with the applicable provisions of Section 40802 of the California Vehicle Code. Prior proposed speed zone studies were conducted by the Division of Transportation in 1989, 2000, and 2001, all which did not recommended the establishment of a speed zone on Greenstone Road.

The scope of this study is limited to that portion of Greenstone Road from Mother Lode Drive to US Hwy 50 EB On/Off Ramps, a distance of 1.43 miles. All Subsequent references to Greenstone Road apply only to the above portion unless otherwise stated.

GENERAL PHYSICAL CONDITIONS:

Greenstone Road exhibits the following characteristics along the 1.43 miles, from Mother Lode Drive to US Hwy 50 EB on/off ramps:

Function:	Minor Collector
Length:	1.43 miles
Width:	Average width of 26 feet
Limits:	Mother Lode Drive to US Hwy 50 EB on/off ramps
Alignment:	Curvilinear
Grade:	Rolling
Surface:	Two (2) lane asphalt surface roadway, asphalt curb, and no sidewalks or streetlights
Striping:	Centerline with raised pavement markers and edge-line striping
Speed Limit:	None posted (Basic Speed Law)

Greenstone Road is a two (2) lane road that is classified as a Minor Collector by the Federal Highway Administration (FHWA), as depicted by the California Road System (CRS) maps. The adjacent land use on Greenstone Road is primarily residential with some commercial and the roadway alignment is curvilinear with rolling terrain along the southern portion of Greenstone Road, between Mother Lode Drive and the Slate Creek Bridge and the remaining portion of Greenstone Road is fairly straight and level to US Highway 50. Greenstone Road is intersected by one (1) State Highway: US Highway 50; two (2) county maintained roads: Greenstone Cutoff, and Davidson Road. In addition, many private roadways and a few private residential and commercial driveways access Greenstone Road, many of which are very narrow in width which can be problematic in regards to access to Greenstone Road. Due to the private status of these roadway and driveway encroachments, any improvements to said private roadways are not under the jurisdiction of the County of El Dorado. The geometric alignment of the southern portion of Greenstone Road (Mother Lode to Davidson Road) is more curvilinear than the remaining section of this portion of Greenstone Road.

Traffic entering from adjoining County roadways onto Greenstone Road is controlled by “STOP” signs, legends, and limit lines. Davidson Road and Greenstone Cutoff is controlled by “STOP” signs, legends, and limit lines at their intersections with Greenstone Road. Bike lanes, sidewalks or streetlights are not present along Greenstone Road.

A Capital Improvement Project to replace the bridge at Slate Creek and straighten out the curve adjoining the bridge is slated to begin construction in 2018. As a result, a wider bridge and straighter roadway alignment on this portion of Greenstone Road will result in higher 85th percentile speeds and subsequent higher posted speed limits if a speed zone was established in the vicinity of the Slate Creek Bridge. Furthermore the proposed Mill Creek Subdivision or any other major land development in this region, which if approved, most likely will result in increased traffic volumes on this roadway as well.

RECORD DATA:

The Average Daily Traffic (ADT) volume counts on Greenstone Road were recorded by El Dorado County Transportation Division in December of 2015, with the following results:

<i>DATE</i>	<i>MILEPOST</i>	<i>SITE</i>	<i>2015 ADT</i>
<i>December 2015</i>	<i>0.05</i>	<i>300 ft. North of Mother Lode Dr</i>	<i>1,384</i>
<i>December 2015</i>	<i>0.88</i>	<i>200 ft. North of Davidson Rd</i>	<i>2,071</i>
<i>AVERAGE DAILY TRAFFIC VOLUME</i>			<i>1,728</i>

The ADT of 1,384, just north of Mother Lode Drive, has increased 6.7 % in comparison to the previous 2014 ADT of 1,297. However, traffic volumes have been fairly stable on this portion of Greenstone Road in the past 10 years, with a high of 1,526 ADT in 2009 and a low of 1,272 ADT in 2013, with an overall average of 1,360 ADT.

A special truck traffic count was performed on Greenstone in December 2015, just north and south of Davidson Road, which resulted in 8.3 % trucks south of Greenstone and 13.5 % trucks north of

Davidson Road, which is consistent with observed increased truck traffic via Davidson Road to and from US Highway 50. However, the County wide observed truck traffic is approximately 10 %, with somewhat higher rates which are expected in areas of Commercial and Industrial Land Use, like business that currently operates on Davidson Road.

A review of the accident data provided by the California Highway Patrol for a three (3) year period from January 1, 2012, through December 31, 2014, disclosed a total of thirteen (13) reported accidents for Greenstone Road (see attached sheets).

2 Reported Accidents in 2012 resulting in 3 Injuries and no Fatalities

3 Reported Accidents in 2013 resulting in no Injuries and no Fatalities

8 Reported Accidents in 2014 resulting in 6 Injuries and no Fatalities

The Thirteen (13) reported accidents during the three (3) year period could be summarized as follows:

1 – Head-On

1 – Sideswipe

9 – Hit Object

1 – Overturned

1 – Motorcycle Involved

<i>Summary of accident data for Greenstone Road from 1/1/12 to 12/31/14</i>	
<i>Accident Rate</i>	<i>4.80 Accidents per Million Vehicle Miles (Acc./MVM)</i>
<i>Number of Reported Accidents</i>	<i>13</i>
<i>Average Daily Traffic Volume</i>	<i>1,728 Vehicles</i>

This rate of 4.80 Accidents per Million Vehicle Miles (Acc./MVM) is higher than the countywide average rate of 1.70 Accidents per Million Vehicle Miles (Acc./MVM) normally experienced along similar sections of roadways. However, extremely low traffic counts, such as in this case, can produce a disproportionately higher accident rate due to the statistically low sample. Therefore, due to the extremely low traffic volume in this speed zone, the accident rate of 4.80 Acc./MVM should not be considered as a major factor in this analysis.

Twelve (12) of the thirteen (13) accidents occurred south of Davidson Road. In addition, five (5) of the thirteen (13) accidents were DUI related. Furthermore, none of the reported accidents involved any commercial trucks. The traffic accidents have been fairly stable on Greenstone Road in the past 10 years, with an overall average of 3.4 accidents annually.

The California Vehicle Code, Section 22358, allows local authorities to establish speed limits based on an “Engineering and Traffic Survey”. The Vehicle Code goes on, in Section 40801 to prohibit the use of “speed traps” for the purpose of speed enforcement and, in Section 40802, defines “speed trap”. Section 40802 also indicates that an “Engineering and Traffic Survey” is required where speed enforcement involves the use of radar and establishes the frequency with which surveys must be conducted for continued radar enforcement. In order to comply with the provisions of the Vehicle Code, and insure that radar enforced speed zones are based on recent data, El Dorado County has established a practice of conducting engineering and traffic survey updates based on a cycle length of five (5) years or less.

In Section 627 the Vehicle Code provides a definition for “Engineering and Traffic Survey”, and states that an “Engineering and Traffic Survey” shall include:

1. Prevailing speeds as determined by traffic engineering measurements.
2. Accident records.
3. Highway, traffic, and roadside conditions not readily apparent to the driver.

In addition, the 2001 edition of the Vehicle Code added that residential density, pedestrian, and bicycle safety may be considered.

While the California Vehicle Code is silent regarding the relationship of the 85th percentile speed to the posted speed, the California Manual on Uniform Traffic Control Devices (CAMUTCD), Section 2B.13, “Speed Limit Sign”, “Engineering and Traffic Survey”, states in part:

“When a speed limit is to be posted, it shall be established at the nearest 5mph increment of the 85th percentile speed of free-flowing traffic, . . . [except] The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85th percentile speed . . .”

Section 2B.13 further states in part:

“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:

An example of the application of this speed limit criterion is as follows:

- If the 85th percentile speed in a speed survey was 37 mph, then the speed limit would be posted at 35 mph or optionally reduced to 30 mph. However,
- If the 85th percentile speed in a speed survey was 38 mph, then the speed limit would be posted at 40 mph or optionally reduced to 35 mph.

For guidance, when considering an additional reduction in the speed limit, Section 2B.13 provides in part:

“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.”

The following caution is also provided:

“The establishment of a speed limit of more than 5 mph below the 85th percentile speed should be done with great care as studies have shown that establishing a speed limit at less than the 85th 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.”

If there is no posted speed limit present on a road, the speed is controlled by Section 22350 “Basic Speed Law” of the California Vehicle Code, which 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.”

Section 22352(a)(2)(A), of the California Vehicle Code establishes a prima facie 25 MPH speed limit on any highway within a “Residence District”.

In defining a “Residence District”, Section 515 of the California Vehicle Code states:

“A “Residence District” is that portion of a highway and the property contiguous thereto, other than a business district, (a) upon one side of which highway, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 13 or more separate dwelling houses or business structures, or (b) upon both sides of which highway, collectively, within a distance of a quarter of a mile, the contiguous property fronting thereon is occupied by 16 or more separate dwelling houses or business structures. A residence district may be longer than one-quarter of a mile if the above ratio of separate dwelling houses or business structures to the length of the highway exists.”

In defining a “Business District”, Section 235 of the California Vehicle Code states:

“A “business district” is that portion of a highway and the property contiguous thereto (a) upon one side of which highway, for a distance of 600 feet, 50 percent or more of the contiguous property fronting thereon is occupied by buildings in use for business, or (b) upon both sides of which highway, collectively, for a distance of 300 feet, 50 percent or more of the contiguous property fronting thereon is so occupied. A business district may be longer than the distances specified in this section if the above ratio of buildings in use for business to the length of the highway exists.”

For a complete list of the various traffic control signs present along Greenstone Road, please see attached “SIGN INVENTORY PRINTOUT ” sheets.

FIELD REVIEW AND OBSERVATION:

Three (3) radar speed surveys were conducted by El Dorado County Transportation Division on Greenstone Road in December of 2015 (see attached sheets). The following were recorded:

<i>2015 SITE LOCATIONS</i>	<i>POSTED SPEED LIMIT</i>	<i>85% SPEED</i>	<i>10 MPH PACE</i>	<i>% IN PACE SPEED</i>
<i>Greenstone Road – 300 ft South of Quail Valley Rd</i>	<i>Not posted 55 MPH (Max)</i>	<i>45 MPH</i>	<i>37 – 46 MPH</i>	<i>75</i>
<i>Greenstone Road – 500 ft North of Davidson Rd</i>	<i>Not posted 55 MPH (Max)</i>	<i>48 MPH</i>	<i>37 – 46 MPH</i>	<i>70</i>
<i>Greenstone Road – at Studebaker Rd (N)</i>	<i>Not posted 55 MPH (Max)</i>	<i>46 MPH</i>	<i>36 – 45 MPH</i>	<i>71</i>

The results recorded in the prior table demonstrate that the 2015 average 85 % speed survey for this portion of Greenstone Road is 46 MPH, which would result in a 45MPH posted Speed Limit if a Speed Zone was established on this portion of Greenstone Road. The 2015 average 85 % truck speed survey for this portion of Greenstone Road is 42 MPH. In the review of prior Engineering and Traffic Surveys (ETS) concerning the matter of establishing a Speed Zone on Greenstone Road, both the 1989 and 2000 ETS both resulted in an average 85 % speed of 47 MPH. Therefore, traffic speeds on Greenstone Road have been fairly consistent in the past three (3) Engineering and Traffic Surveys spanning the last 26 years.

No portion of Greenstone Road currently meets the minimum housing density requirements, or concentration of businesses necessary to qualify for a 25 mile per hour prime facie Residence District or Business District speed limit as defined in the *California Vehicle Code*.

CONTACTS:

Carol Louis – Local Resident

FINDINGS AND CONCLUSIONS:

Greenstone Road has been found to have the following:

- The 85th percentile speeds for Greenstone Road were 45, 48, and 46 MPH, an average of 46 MPH, with a lower 85th percentile speed of 42 MPH for commercial truck traffic.
- The average daily traffic volume was 1,728 vehicles per day.
- There is one (1) State Highway, two (2) intersecting county roads, many private roadways, and a few commercial and residential driveway encroachments accessing Greenstone Road.
- There were thirteen (13) accidents reported along the entire portion of Greenstone Road for the three (3) year period from January, 2012 to December, 2014; with twelve (12) of the thirteen (13) accidents were south of Davidson Road with no commercial truck related accidents.
- Bike paths, sidewalks, and streetlights are not present along the entire portion of Greenstone Road.

DISCUSSION:

Section 2B-13 of the *California Manual on Uniform Traffic Control Devices* (CAMUTCD) provides criteria for establishing speed limits. In accordance with those provisions, radar speed measurements on Greenstone Road disclosed 85th percentile speeds 45, 48, and 46 MPH, an average of 46 MPH which would result in a 45MPH posted Speed Limit if a Speed Zone was established on this portion of Greenstone Road.

Section 2B-13 of the CAMUTCD also states the criteria for the establishment of speed zone, which discourages short speed zones, less that 0.5 of a mile, which should be avoided. Since the geometric

characteristics of this portion of Greenstone road vary so much, in that the southern portion is curvilinear and the northern portion is fairly straight and level and a majority of the accidents have occurred at the Slate Creek Bridge and the Greenstone Cutoff intersection (southern portion), establishing a single speed zone would be inadvisable at this time. Furthermore, the curvilinear nature and characteristics of the southern portion of Greenstone Road will be subject to substantial change in the near term with the upcoming Slate Creek Bridge replacement in 2018 as well as possible future developments in this vicinity that may increase traffic on this roadway which may tend to reduce speeds with future traffic congestion.

In summary and conclusion, due to the varied roadway geometrics of the northern and southern portions of Greenstone Road; the consistent speeds, traffic, and relatively low number of accidents on this portion of Greenstone Road in the past ten years; and potential significant changes to the overall character of the roadway due to the upcoming Slate Creek Bridge CIP and potential future adjacent developments; it is concluded that the establishment of a posted speed limit on Greenstone Road is not justified at this time. It would be advisable to reconsider this request when the Slate Creek Bridge Replacement Capital Improvement Project is completed and/or the Mill Creek Development or any other significant changes to Greenstone Road occur that might affect the overall safety and operations of the motoring public on this roadway.

RECOMMENDATION

Based on the findings of this investigation, it is recommended that:

1. The Traffic Advisory Committee deny the request for a posted speed limit on Greenstone Road at this time.

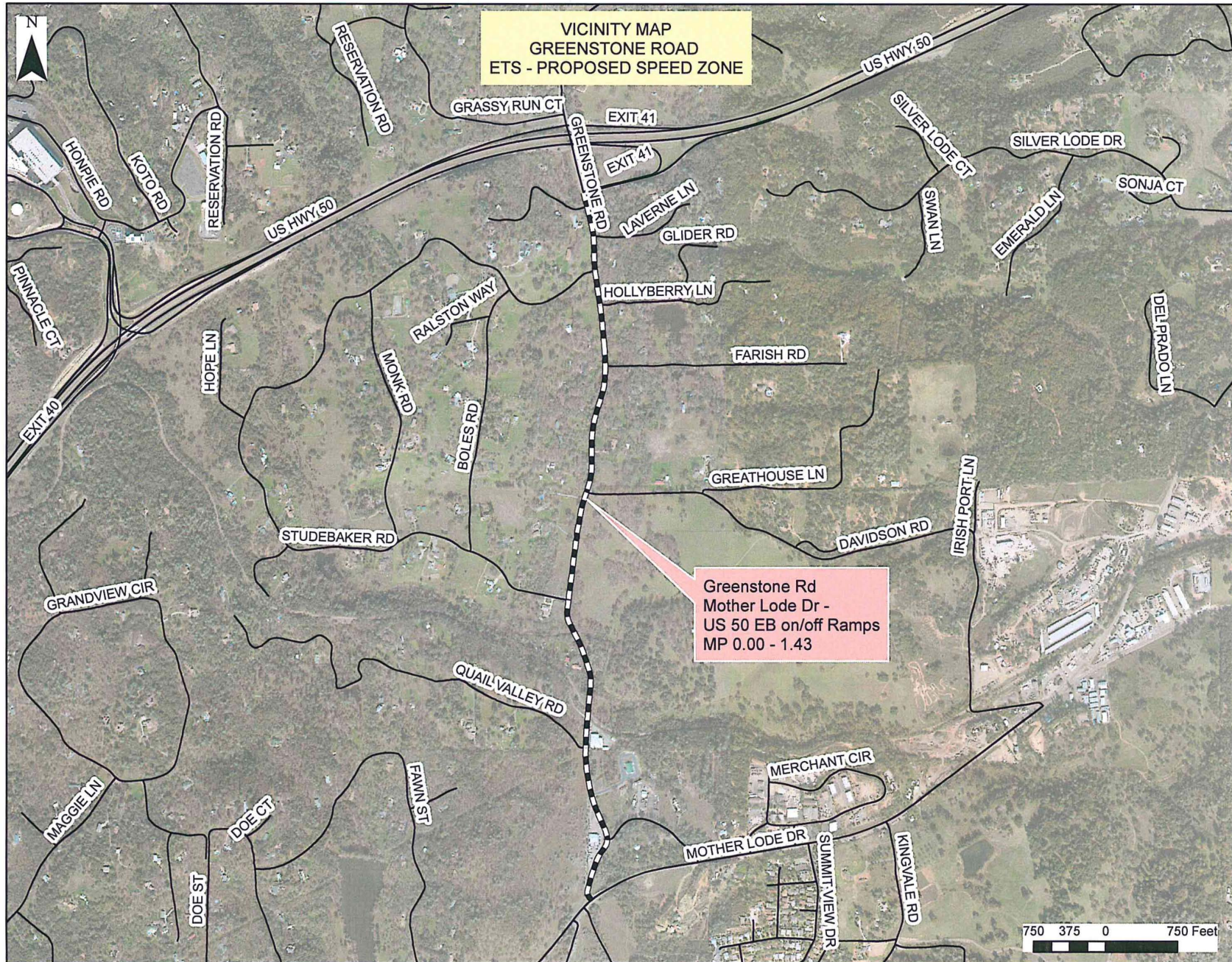
Prepared by: Jon T. Vegna
Jon T. Vegna
Senior Engineering Technician

Approved By: Darryl L. Brown On 3/11/16
Darryl L. Brown, P.E.
Traffic Superintendent
Date

Approved By: Bard R. Lower On 3/18/16
Bard R. Lower, Director
Transportation Division
Community Development Agency
Date

Attachments: Vicinity Map (1)
Vicinity Photos (3)

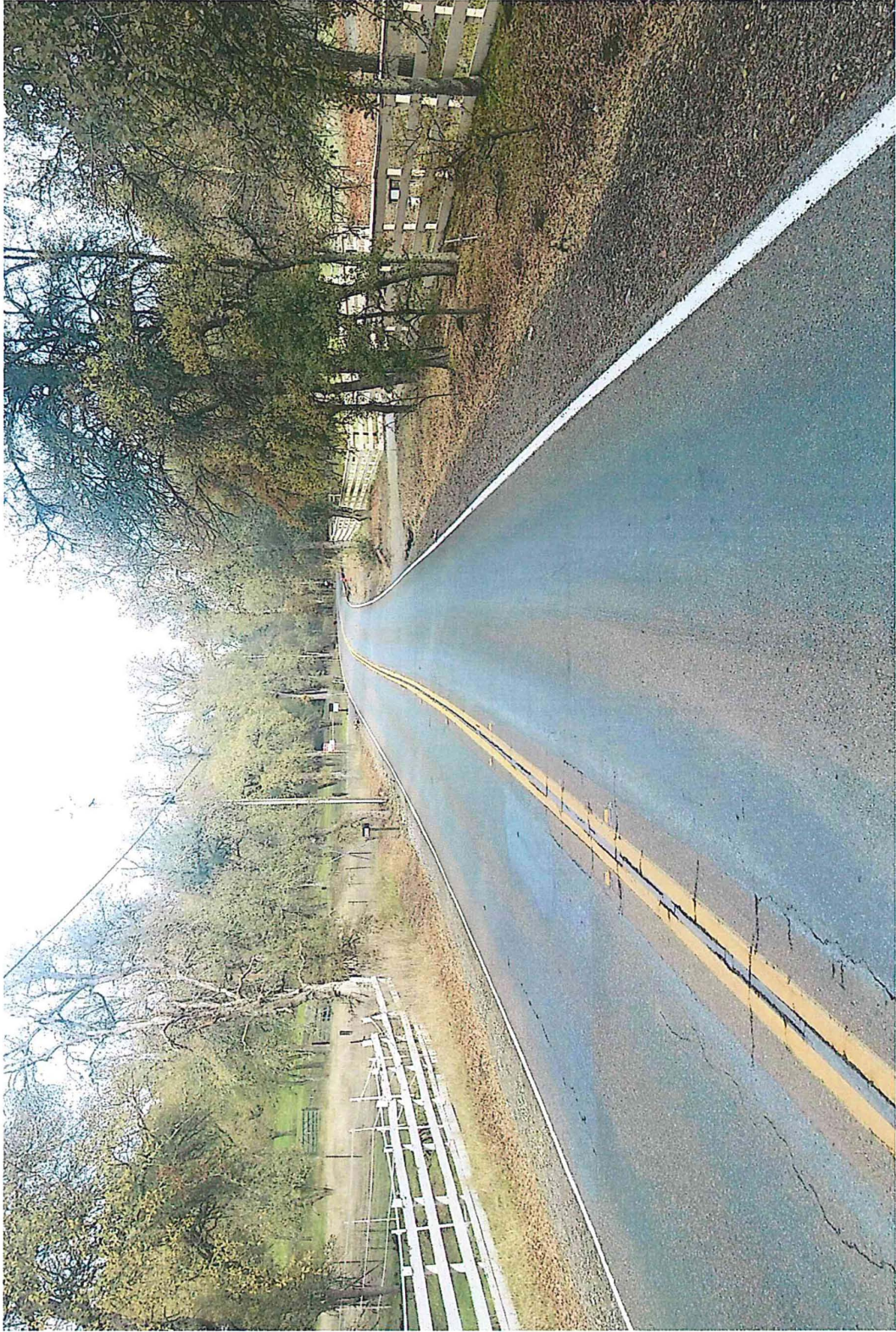
Sign Inventory (2)
Traffic Volume Counts (3)
Accident Summary (4)
Speed Survey (3)



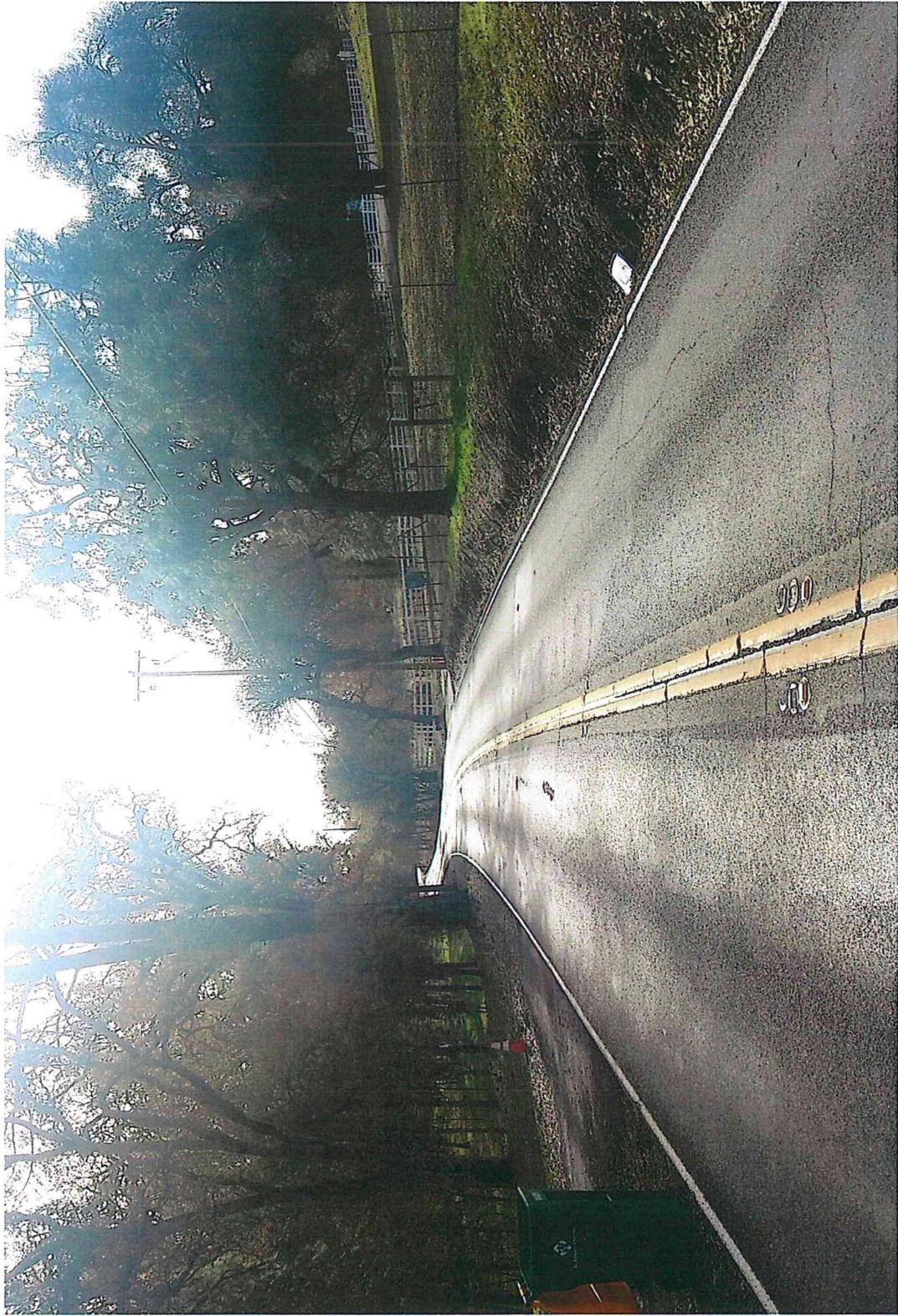
Greenstone Road – 300 ft. South of Quail Valley Road



Greenstone Road – 500 ft. North of Davidson Road



Greenstone Road – At Studebaker Road (N)



Sign Inventory for: **GREENSTONE RD**

Road # **7**

15-Dec-15 Beginning at Mile Post- 0.00 and Ending at Mile Post- 1.43

Old Sign Code	2010 CA Sign Code	Location	Dir	Cross Street	Mile Post	Side	Fac	Sheeting	Date
W56	W1-7	10 ft S of		MOTHER LODE DR	0.000	M	N	Hp	12/6/2012
N1	N (CA)	10 ft S of		MOTHER LODE DR	0.000	M	N	HP	2/13/2012
R1	R1-1	20 ft N of		MOTHER LODE DR	0.000	W	N	HP	10/5/2015
W57(L)	W1-6(L)	75 ft N of		MOTHER LODE DR	0.010	W	N	HP	5/24/2013
N1	N (CA)	75 ft N of		MOTHER LODE DR	0.010	W	N	HP	2/13/2012
G8	G8-7 (CA)	100 ft N of		MOTHER LODE DR	0.020	W	N	HP	1/2/2013
W17	W3-1	375 ft N of		MOTHER LODE DR	0.070	W	N	HP	1/30/2013
W57(R)	W1-6(R)	694 ft N of		MOTHER LODE DR	0.130	E	N	HP	12/6/2012
N1	N (CA)	694 ft N of		MOTHER LODE DR	0.130	E	N	HP	2/13/2012
W57(L)	W1-6(L)	710 ft N of		MOTHER LODE DR	0.130	E	S	HP	12/6/2012
N1	N (CA)	710 ft N of		MOTHER LODE DR	0.130	E	S	HP	2/13/2012
W47	W10-1	863 ft N of		GREENSTONE CF	0.300	E	S	HP	5/21/2013
SW27-1(L)	W10-12(L)	1,127 ft N of		GREENSTONE CF	0.350	E	S	HP	12/6/2012
SW27-1(L)	W10-12(L)	1,565 ft N of		GREENSTONE CF	0.440	W	N	HP	12/6/2012
W23	W5-2	1,747 ft N of		GREENSTONE CF	0.470	E	S	HP	12/6/2012
W47	W10-1	1,750 ft N of		GREENSTONE CF	0.470	W	N	HP	5/21/2013
W3(R)	W1-1(R)	2,093 ft N of		GREENSTONE CF	0.540	E	S	HP	12/6/2012

GREENSTONE RD

Sign Inventory Continued:

Old Sign Code	2010 CA Sign Code	Location	Dir	Cross Street	Mile Post	Side	Fac	Sheeting	Date
W6(30)	W13-1(30)	2,093 ft	N of	GREENSTONE CF	0.540	E	S	HP	12/6/2012
P	P (CA)	2,215 ft	N of	GREENSTONE CF	0.560	E	S	HP	11/8/2012
P	P (CA)	2,215 ft	N of	GREENSTONE CF	0.560	W	S	HP	11/8/2012
P	P (CA)	2,255 ft	N of	GREENSTONE CF	0.570	W	N	HP	1/31/2014
P	P (CA)	2,255 ft	N of	GREENSTONE CF	0.570	E	N	HP	11/8/2012
W57(L)	W1-6(L)	2,375 ft	N of	GREENSTONE CF	0.590	W	N	HP	12/6/2012
N1	N (CA)	2,375 ft	N of	GREENSTONE CF	0.590	W	N	HP	2/13/2012
W57(R)	W1-6(R)	2,428 ft	N of	GREENSTONE CF	0.600	W	S	HP	12/7/2012
N1	N (CA)	2,428 ft	N of	GREENSTONE CF	0.600	W	S	HP	2/13/2012
W23	W5-2	2,520 ft	N of	GREENSTONE CF	0.620	W	N	HP	12/7/2012
W3(L)	W1-1(L)	2,832 ft	N of	GREENSTONE CF	0.680	W	N	HP	12/7/2012
W6(30)	W13-1(30)	2,832 ft	N of	GREENSTONE CF	0.680	W	N	HP	12/7/2012
W42	W8-5	650 ft	S of	DAVIDSON RD	0.720	W	N	HP	12/7/2012

**EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY: TRANSPORTATION DIVISION**

Count Summary Beginning: December 1, 2015

Count Station:	1100007	Counter ID:	63
City/Town:	Shingle Springs	Mile Post:	0.05
Road Name:	Greenstone Road	Location:	300 Ft. N. of Mother Lode Dr.
Lanes:	2	Direction:	SOUTHBOUND

Date	6	7	1	2	3	4	5	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	7	4	1	1	6	4	10	5	3
200	4	4	3	7	2	3	3	4	4
300	10	4	5	2	2	5	2	4	4
400	5	4	2	4	5	4	3	4	4
500	3	6	2	0	9	5	1	4	4
600	3	12	18	12	6	6	6	9	11
700	5	31	40	31	42	26	7	26	34
800	21	104	102	95	86	74	30	73	92
900	42	115	125	132	104	144	64	104	124
1000	57	97	90	84	81	102	58	81	91
1100	53	88	84	83	75	108	88	83	88
1200	68	88	92	112	76	110	83	90	96
1300	80	83	96	94	104	124	108	98	100
1400	60	114	114	102	71	86	95	92	97
1500	84	94	116	110	100	102	100	101	104
1600	79	122	138	125	104	136	100	115	125
1700	87	85	145	118	91	123	94	106	112
1800	53	94	106	113	84	110	78	91	101
1900	46	52	64	72	58	82	66	63	66
2000	29	39	46	42	45	52	32	41	45
2100	19	26	26	66	17	24	31	30	32
2200	20	12	17	36	24	33	46	27	24
2300	7	10	15	19	12	19	28	16	15
2400	6	6	4	11	3	13	24	10	7
Totals	848	1294	1451	1471	1207	1495	1157	1275	1384
AM Peak Hr	12:00	9:00	9:00	9:00	9:00	9:00	11:00	9:00	9:00
AM Count	68	115	125	132	104	144	88	104	124
PM Peak Hr	5:00	4:00	5:00	4:00	1:00	4:00	1:00	4:00	4:00
PM Count	87	122	145	125	104	136	108	115	125

TOTAL ADT: 1,384

**EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY: TRANSPORTATION DIVISION**

Count Summary Beginning: December 10, 2015

Count Station:	Special	Counter ID:	53
City/Town:		Mile Post:	
Road Name:	Greenstone Rd	Location:	North of Davidson Rd
Lanes:	2	Direction:	NORTHBOUND

Date	13	14	15	16	10	11	12	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	6	2	6		2	8	10		5
200	4	28	12		2	2	4		11
300	7	3	1		2	1	2		2
400	3	10	4		3	6	5		6
500	3	11	0		3	4	4		5
600	4	15	19		16	16	9		17
700	6	35	46		38	43	10		41
800	26	54	59		93	55	25		65
900	26	71	77		89	94	60		83
1000	61	51	75		64	67	66		64
1100	51	65	53		55	60	69		58
1200	41	53	75		66	57	62		63
1300	58	71	149		59	61	78		85
1400	53	74	71		60	50	76		64
1500	43	69	78		78	87	55		78
1600	37	77	92		115	95	56		95
1700	47	94	93		91	80	45		90
1800	32	79	75		83	86	60		81
1900	22	117	35		38	42	45		58
2000	20	28	41		31	26	19		32
2100	23	11	30		13	32	25		22
2200	38	14	15		16	25	39		18
2300	33	8	9		9	22	11		12
2400	7	7	4		5	11	12		7
Totals	651	1047	1119		1031	1030	847		1057
AM Peak Hr	10:00	9:00	9:00		8:00	9:00	11:00		9:00
AM Count	61	71	77		93	94	69		83
PM Peak Hr	1:00	7:00	1:00		4:00	4:00	1:00		4:00
PM Count	58	117	149		115	95	78		95

TOTAL ADT: 2,071

**EL DORADO COUNTY
COMMUNITY DEVELOPMENT AGENCY: TRANSPORTATION DIVISION**

Count Summary Beginning: December 10, 2015

Count Station:	Special	Counter ID:	53
City/Town:		Mile Post:	
Road Name:	Greenstone Rd	Location:	North of Davidson Rd
Lanes:	2	Direction:	SOUTHBOUND

Date	13	14	15	16	10	11	12	Weekly	Wk Day
Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Average	Avg.
Time									
100	5	7	5		3	4	16		5
200	4	29	14		4	4	3		13
300	4	4	4		2	4	5		4
400	4	12	0		1	3	1		4
500	3	10	2		4	5	1		5
600	2	7	6		7	7	4		7
700	3	20	17		26	16	8		20
800	8	48	72		81	52	12		63
900	14	95	80		94	88	30		89
1000	25	48	56		62	37	43		51
1100	40	58	50		53	73	64		59
1200	33	74	63		44	47	63		57
1300	48	51	62		62	64	67		60
1400	42	64	73		57	70	69		66
1500	44	93	90		90	79	57		88
1600	54	82	97		106	101	54		97
1700	41	88	99		88	82	52		89
1800	58	70	95		76	68	53		77
1900	42	64	59		41	52	55		54
2000	21	33	30		38	31	38		33
2100	26	28	21		32	31	27		28
2200	11	12	24		23	24	21		21
2300	15	14	15		17	21	22		17
2400	8	10	8		7	13	15		10
Totals	555	1021	1042		1018	976	780		1014
AM Peak Hr	11:00	9:00	9:00		9:00	9:00	11:00		9:00
AM Count	40	95	80		94	88	64		89
PM Peak Hr	6:00	3:00	5:00		4:00	4:00	2:00		4:00
PM Count	58	93	99		106	101	69		97

TOTAL ADT: 2,071

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
ACCIDENT SITE ANALYSIS SUMMARY FOR
GREENSTONE RD
Mother Lode Dr to US 50 EB On/Off Ramps

Report Date: 12/21/2015

For the period beginning January 1, 2012 and ending December 31, 2014

Beginning at Mile Post	0.00	and Ending at Mile Post	1.43	Roadway Section Length =	1.43
2012	Number of Accidents:	2	Number of Injuries:	3	Number of Fatalities: 0
2013	Number of Accidents:	3	Number of Injuries:	0	Number of Fatalities: 0
2014	Number of Accidents:	8	Number of Injuries:	6	Number of Fatalities: 0
Three Year Accident Total =		13	Three Year Injury Total =		9
			Three Year Fatality Total =		0

Average Daily Traffic Volume: 1,728
Accidents per Million Vehicle Miles is: 4.80

**EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION**

2012 C.H.P. ACCIDENT SUMMARY FOR GREENSTONE RD FROM MP-0.00 TO MP-1.43

Report Date: 12/21/2015

The following accident data is based on the C.H.P. Accident Reports for the one year period from January 1, 2012, through December 31, 2012.

The following code numbers have been used to classify the various major types of accidents:

- | | | |
|------------------------------|-----------------------------------|---------------------|
| 1 = Headon | 2 = Sideswipe | 3 = Rearend |
| 4 = Broadside | 5 = Hit Object | 6 = Overturned |
| 7 = Pedestrian Involved | 8 = Bicycle Involved | 9 = Animal Involved |
| 10 = Parked Vehicle Involved | 11 = Snow Removal Equip. Involved | 12 = Other |
| 13 = Motorcycle Involved | 14 = School Bus Involved | |

Street	Mile Post	Dist.	Dir.	Cross Street	# Veh	Injury	Fatal	Time	Cond.	Imp.	Code
GREENSTONE RD	0.56	347	SOUTH	of STUDEBAKER RD (S)	1	3	0	DAY	DRY	HNBD	5
GREENSTONE RD	1.11	79	NORTH	of FARISH RD	1	0	0	DARK	DRY	DUI	5

Total Number of Accidents: 2

Total Number of Injuries: 3

Total Number of Fatalities: 0

**EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION**

2013 C.H.P. ACCIDENT SUMMARY FOR GREENSTONE RD FROM MP-0.00 TO MP-1.43

Report Date: 12/21/2015

The following accident data is based on the C.H.P. Accident Reports for the one year period from January 1, 2013, through December 31, 2013.

The following code numbers have been used to classify the various major types of accidents:

- | | | |
|------------------------------|-----------------------------------|---------------------|
| 1 = Headon | 2 = Sideswipe | 3 = Rearend |
| 4 = Broadside | 5 = Hit Object | 6 = Overturned |
| 7 = Pedestrian Involved | 8 = Bicycle Involved | 9 = Animal Involved |
| 10 = Parked Vehicle Involved | 11 = Snow Removal Equip. Involved | 12 = Other |
| 13 = Motorcycle Involved | 14 = School Bus Involved | |

Street	Mile Post	Dist.	Dir.	Cross Street	# Veh	Injury	Fatal	Time	Cond.	Imp.	Code
GREENSTONE RD	0.15	80	NORTH	of GREENSTONE CUTO	1	0	0	DARK	DRY	DUI	2
GREENSTONE RD	0.36	200	NORTH	of QUAIL VLY RD	1	0	0	DAY	WET	HNBD	6
GREENSTONE RD	0.84	5	SOUTH	of DAVIDSON RD	1	0	0	DARK	DRY	DUI	5

Total Number of Accidents: 3

Total Number of Injuries: 0

Total Number of Fatalities: 0

**EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION**

2014 C.H.P. ACCIDENT SUMMARY FOR GREENSTONE RD FROM MP-0.00 TO MP-1.43

Report Date: 12/21/2015

The following accident data is based on the C.H.P. Accident Reports for the one year period from January 1, 2014, through December 31, 2014.

The following code numbers have been used to classify the various major types of accidents:

- | | | |
|------------------------------|-----------------------------------|---------------------|
| 1 = Headon | 2 = Sideswipe | 3 = Rearend |
| 4 = Broadside | 5 = Hit Object | 6 = Overturned |
| 7 = Pedestrian Involved | 8 = Bicycle Involved | 9 = Animal Involved |
| 10 = Parked Vehicle Involved | 11 = Snow Removal Equip. Involved | 12 = Other |
| 13 = Motorcycle Involved | 14 = School Bus Involved | |

Street	Mile Post	Dist.	Dir.	Cross Street	# Veh	Injury	Fatal	Time	Cond.	Imp.	Code
GREENSTONE RD	0.11	120	SOUTH	of GREENSTONE CUTO	1	0	0	DAY	DRY	DUI	5
GREENSTONE RD	0.13	0	AT	of GREENSTONE CUTO	1	1	0	DAY	DRY	HNBD	13
GREENSTONE RD	0.15	90	NORTH	of GREENSTONE CUTO	1	0	0	DARK	DRY	DUI	5
GREENSTONE RD	0.48	825	NORTH	of QUAIL VLY RD	1	0	0	DAY	WET	HNBD	5
GREENSTONE RD	0.54	120	SOUTH	of STUDEBAKER RD (S)	1	1	0	DAY	WET	HNBD	5
GREENSTONE RD	0.56	330	SOUTH	of STUDEBAKER RD (S)	2	2	0	DAY	DRY	HNBD	1
GREENSTONE RD	0.56	300	SOUTH	of STUDEBAKER RD (S)	1	1	0	DAY	DRY	HNBD	5
GREENSTONE RD	0.60	120	SOUTH	of STUDEBAKER RD (S)	1	1	0	DAY	WET	HNBD	5

Total Number of Accidents: 8

Total Number of Injuries: 6

Total Number of Fatalities: 0

**County of El Dorado
Transportation Division**

Street Name: GREENSTONE RD

Limits: STUDEBAKER RD (N) to US 50

Radars Survey Sheet

X=North/South

	5	10	15	20	25	30	35	40	#	%ea	cum.%
60	X								1	0.9%	100%
55	X								1	0.9%	99.1%
50	X								1	0.9%	98.1%
	X								1	0.9%	97.2%
	X								1	0.9%	96.2%
	X								1	0.9%	95.3%
	X								5	4.7%	94.3%
	X								5	4.7%	89.6%
45	X	X							10	9.4%	84.9%
	X	X							7	6.6%	75.5%
	X	X							3	2.8%	68.9%
	X	X							8	7.5%	66.0%
40	X	X							7	6.6%	58.5%
	X	X							4	3.8%	51.9%
	X	X							8	7.5%	48.1%
	X	X							9	8.5%	40.6%
	X	X							8	7.5%	32.1%
	X	X							7	6.6%	24.5%
35	X	X							5	4.7%	17.9%
	X	X							2	1.9%	13.2%
	X	X							1	0.9%	11.3%
	X	X							4	3.8%	10.4%
30	X	X							3	2.8%	6.6%
	X	X							1	0.9%	3.8%
	X	X							1	0.9%	2.8%
25	X	X							1	0.9%	1.9%
	X	X							1	0.9%	0.9%
20											
15											
Total Samples									106		

85th Percentile Speed: 46
 50th Percentile Speed: 40
 15th Percentile Speed: 35
 10 MPH Pace: 36-45
 Number in Pace: 71
 Percent in Pace: 67.0%

Date of Survey: 12/8/2015
 Weather: Clear
 Road Condition: Good
 Street Class.: Minor Collector
 Observer: VEGNA
 Conditions not Apparent:

Start Time: 10:43
 End Time: 11:31
 Posted Speed:

**County of El Dorado
Transportation Division**

Street Name: GREENSTONE RD
Limits: MOTHER LODE to QUAIL VLY RD

Radar Survey Sheet

X=North/South

	5	10	15	20	25	30	35	40	#	%ea	cum.%
55	X								1	0.9%	100%
	X								1	0.9%	99.1%
	X								1	0.9%	98.2%
	X								1	0.9%	97.2%
50											
	X	X							3	2.8%	96.3%
	X	X							9	8.3%	93.6%
45	X	X	X						10	9.2%	85.3%
	X	X	X						5	4.6%	76.1%
	X	X	X						5	4.6%	71.6%
	X	X	X						9	8.3%	67.0%
40	X	X	X	X					6	5.5%	58.7%
	X	X	X	X					7	6.4%	53.2%
	X	X	X	X					9	8.3%	46.8%
	X	X	X	X					8	7.3%	38.5%
	X	X	X	X					7	6.4%	31.2%
35	X	X	X	X	X				6	5.5%	24.8%
	X	X	X	X	X				6	5.5%	19.3%
	X	X	X	X	X				4	3.7%	13.8%
	X	X	X	X	X				5	4.6%	10.1%
30	X	X	X	X	X				3	2.8%	5.5%
	X	X	X	X	X				1	0.9%	2.8%
	X	X	X	X	X				1	0.9%	1.8%
25	X								1	0.9%	0.9%
20											
15											
10											
Total Samples									109		

85th Percentile Speed: 45
50th Percentile Speed: 40
15th Percentile Speed: 35
10 MPH Pace: 37-46
Number in Pace: 75
Percent in Pace: 68.8%

Date of Survey: 12/8/2015 Start Time: 8:20
Weather: Cloudy End Time: 9:20
Road Condition: Good Posted Speed:
Street Class.: Minor Collector
Observer: VEGNA
Conditions not Apparent:

**County of El Dorado
Transportation Division**

Street Name: GREENSTONE RD

Limits: DAVIDSON RD to FARISH RD

Radars Survey Sheet

X=North/South

	5	10	15	20	25	30	35	40	#	%ea	cum.%
55	X								1	0.9%	100%
	X								1	0.9%	99.1%
									1	0.9%	98.2%
50	X	X	X						6	5.3%	97.3%
	X	X	X						4	3.5%	92.0%
	X	X	X						5	4.4%	88.5%
	X	X	X						4	3.5%	84.1%
	X	X	X						6	5.3%	80.5%
45	X	X	X	X					7	6.2%	75.2%
	X	X	X	X					6	5.3%	69.0%
	X	X	X	X					8	7.1%	63.7%
	X	X	X	X					4	3.5%	56.6%
	X	X	X	X					7	6.2%	53.1%
40	X	X	X	X	X				13	11.5%	46.9%
	X	X	X	X	X				4	3.5%	35.4%
	X	X	X	X	X				9	8.0%	31.9%
	X	X	X	X	X				6	5.3%	23.9%
	X	X	X	X	X				4	3.5%	18.6%
35	X	X	X	X	X				4	3.5%	15.0%
	X	X	X	X	X				4	3.5%	11.5%
	X	X	X	X	X				5	4.4%	8.0%
	X	X	X	X	X				2	1.8%	3.5%
30	X								1	0.9%	1.8%
	X										
									1	0.9%	0.9%
25											
20											
15											
10											
Total Samples									113		

85th Percentile Speed: 48
 50th Percentile Speed: 41
 15th Percentile Speed: 35
 10 MPH Pace: 37-46
 Number in Pace: 70
 Percent in Pace: 61.9%

Date of Survey: 12/8/2015
 Weather: Cloudy
 Road Condition: Good
 Street Class.: Minor Collector
 Observer: VEGNA
 Conditions not Apparent:

Start Time: 9:28
 End Time: 10:23
 Posted Speed: