




COUNTY OF HUMBOLDT

AGENDA ITEM NO.
F1

For the meeting of: April 3, 2018

Date: Tuesday, March 13, 2018
To: Board of Supervisors
From:  Thomas K. Mattson, Public Works Director
Subject: Richardson Grove Speed Zone Survey

RECOMMENDATIONS:

That the Board of Supervisors:

1. Receive a staff report on the proposed speed limit changes as recommended by the California Department of Transportation (CalTrans); and
2. Receive public comment on the proposed speed limit changes; and
3. Forward the public comments to CalTrans for their review.

SOURCE OF FUNDING: CalTrans

DISCUSSION:

CalTrans has performed a new speed zone survey in the Richardson Grove area of State Highway 101. The updated survey is necessary to allow the California Highway Patrol (CHP) to use radar to enforce the speed limits. The speed zone survey is included as Attachment 1 to this agenda item.

Prepared by Thomas K. Mattson

CAO Approval



REVIEW:

Auditor _____ County Counsel _____ Personnel _____ Risk Manager _____ Other _____

TYPE OF ITEM:

- Consent
- Departmental
- Public Hearing
- Other _____

BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT

Upon motion of Supervisor Fennell
Seconded by Supervisor Wilson
And unanimously carried by those members present,
The Board hereby adopts the recommended action
Contained in this report.

PREVIOUS ACTION/REFERRAL:

Board Order No. N/A
Meeting of: N/A

Dated: 4/3/18
Kathy Hayes, Clerk of the Board

By: 

FINANCIAL IMPACT:

The requested actions have no financial impact to the county.

The requested action conforms to the Board of Supervisors' core roles by supporting opportunities for improved safety.

OTHER AGENCY INVOLVEMENT:

CalTrans, CHP

ALTERNATIVES TO STAFF RECOMMENDATIONS:

No alternatives are recommended.

ATTACHMENTS:

Attachment 1: Richardson Grove Speed Zone Survey

FEB 28 2018

DEPARTMENT OF TRANSPORTATION

DISTRICT 1, P. O. BOX 3700
EUREKA, CA 95502-3700
PHONE (707) 445-6376
FAX (707) 441-5826
TTY 711



*Making Conservation
a California Way of Life.*

February 27, 2018

HUM-101-PM T0.15/R5.13
Richardson Grove Speed Zone Survey

Mr. Thomas K. Mattson
Public Works Director
County of Humboldt
1106 2nd Street
Eureka, CA 95501

Dear Mr. Mattson:

The District 1 Traffic Safety Office has recently performed an Engineering and Traffic Survey (E&TS) for the following Speed Zone: U.S. Route 101 from PM T 0.15 to PM R 5.13 in Richardson Grove. The survey was extended in 2015 to the maximum 10 year period and now must be updated. The survey proposes to modify the existing speed limit from PM 0.40 to PM 0.56 and PM 2.25 to PM 2.30 and incorporates an additional speed zone from PM 0.32 to PM 0.56 (see enclosure).

Pursuant to the provisions of Section 22354.5 of the California Vehicle Code (CVC), the Board of Supervisors may desire to solicit public comment on these proposed changes and, if so Caltrans shall take into consideration the concerns of the public in determining whether to move forward with speed limit changes. Please let us know if and when the Board desires to place this item on their agenda and we will provide staff to attend and answer questions. If the Board determines that a discussion is not required, please notify us so we may proceed with the completion and implementation of the E&TS and its recommendations.

Should you wish to discuss this matter further, please contact me at the number listed above or Chris Bledsoe, Assistant Traffic Safety Engineer, at 707-445-5343.

Sincerely,

A handwritten signature in blue ink that reads "David Morgan".

DAVID A. MORGAN,
Chief Traffic Safety Office

Enclosure: Draft of proposed E&TS: U.S. Route 101 from PM T 0.15 to PM R 5.13 in Richardson Grove

c: Special Duty Officer William Wunderlich, Garberville Area CHP Office

Memorandum

*Making Conservation
a California Way of Life.*

To: MATTHEW K. BRADY
District Director

Date: March 15, 2018

File: HUM-101-PM T0.15/R5.13
Richardson Grove
Speed Zone File #32

From: DEPARTMENT OF TRANSPORTATION
District 1 Traffic Safety Office

Subject: **ENGINEERING AND TRAFFIC SURVEY (E&TS) FOR U.S. ROUTE 101,
RICHARDSON GROVE**

INITIATION:

This survey updates the existing E&TS for speed zones between PM T0.15 and R5.13 on U.S. Route 101 in Humboldt County. The 10-year term of the current E&TS expires on October 2, 2018. The survey was conducted in compliance with the requirements of Section 627 and 40802 of the California Vehicle Code (CVC) for the use of radar speed surveillance. CVC Section 40802 establishes that an E&TS is valid for five years, or seven years if the arresting officer satisfies specific qualification criterion regarding radar speed surveillance training by the arresting officer, and up to 10 years, if in addition, a review determines that no significant changes in roadway or traffic conditions have occurred. The updated speed zone will be enforceable by radar surveillance methods.

This survey will renew the existing E&TS.

RESULTS OF THE STUDY:

Existing Conditions:

U.S. Route 101 is a conventional two-lane highway passing through Richardson Grove State Park and its nearby communities. There are several businesses and residential buildings as well as the old growth redwood grove along the highway segment between PM 0.76 and 2.55. Through the state park, large redwoods exist directly adjacent to the traveled way, in some cases inside the narrow shoulders. The park covers 1,500 acres and has 170 campsites; summertime use is high. The southern boundary of the park is at approximately PM 1.16, while the main entrance is at PM 1.73 on the west side of the highway. There are three at-grade road intersections and no traffic signals through this speed zone. Traffic volumes between PM T0.15 and R5.13 is approximately 4,700 vehicles per day.

Existing Speed Zone:

55 MPH	PM T0.15 to PM 0.40
40 MPH	PM 0.40 to PM 1.15

35 MPH PM 1.15 to PM 2.30
 40 MPH PM 2.30 to R2.75
 55 MPH PM R2.75 to PM R5.13

Existing Traffic Control Devices:

<u>PM</u>	<u>FNBT</u>	<u>FSBT</u>
T0.15	R2-4(CA) (40 MPH)	-----
T0.17	W11-3/W7-3aP (3 Miles)	-----
0.38	W11-1/W16-1P	-----
0.40	R2-1 (40 MPH)	R3 (CA) (40 MPH)
0.49	W11-2/W7-3aP (1/2 Miles)	-----
0.56	R2-1 (40 MPH)	
0.63	2x Flasher/W11-1/W13-1P (40 MPH)/ Vehicle Speed Feed Back Sign	-----
0.68	SW (ROAD NARROWS/PASSING LANE 2 MILES)	
0.87	W1-5/ W7-3aP (3 Miles)	-----
0.88	-----	R2-1 (40 MPH)
0.96	-----	W11-2
0.98	SW (ROAD NARROWS/PASSING LANE 2 MILES)	
1.05	-----	W11-2/W7-3aP (1/2 Miles)
1.06	W5-1	-----
1.15	R2-1 (35 MPH)	R2-1 (40 MPH)
1.28	Type P (CA)	-----
1.34	Type P (CA)	Type P (CA)
1.35	Type P (CA)	-----
1.36	Type P (CA)	-----
1.37	W1-6 (LT) w/ Type N Marker	-----
1.43	-----	Type P (CA)
1.44	Type P (CA)	-----
1.50	-----	Type P (CA)
1.51	Type P (CA)	-----
1.52	-----	Type P (CA)
1.53	Type P (CA)	-----
1.54	-----	Type P (CA)
1.56	Type P (CA)	-----
1.59	W1-3 (LT)/W13-1P (30 MPH)	Type P (CA)
1.60	Type P (CA)	-----
1.66	W1-6 (RT)/Type N Marker	-----
1.69	W2-2 (LT)	-----
1.70	-----	Type P (CA)
1.79	-----	W1-3.(LT)/W13-1 (30 MPH)
1.98	W1-3 (LT)/W13-1 (30 MPH)	-----
	Type P (CA)	-----
1.99	Type P (CA) 2x	-----
2.00	W11-2 (Pedestrian Symbol)	
	Type P (CA)	

2.04	-----	R3-1 (LT)
2.05	-----	Type P (CA)
2.17	-----	Flasher/W1-3 (LT)/W13-1 (30 MPH)
2.20	Flasher/W8-8/W7-3aP (1.1 Miles) (turnable base)	-----
2.21	-----	W11-2 (Pedestrian Symbol)
2.26	-----	W5-1
2.30	R2-1 (40 MPH)	R2-1 (35 MPH)
2.49	S3-1 SCHOOL/BUS STOP/500 FT	
2.57	-----	W1-1 (LT)/W13-1P (30 MPH) (LT & RT)
2.61	-----	W4-22(CA) (LT) (30 MPH)
2.69	-----	W11-1/W16-1P
2.71	-----	W11-2 (LT)/W13-1P (40 MPH)
2.74	W50 (CA)	-----
R2.75	-----	R2-1 (40 MPH)
R2.76	R2-1 (55 MPH)	W1-5 (LT)/W7-3aP (2 Miles)
R2.82	-----	2 x Flasher/SW (TRUCKERS –TIGHT CURVES NEXT 3 MILES – REDUCED SPEED)
R2.83	-----	2x Flasher/W11-1/W13-1P (40 MPH)/ Vehicle Speed Feed Back Sign
R2.88	W2-2 (RT)	-----
R2.89	-----	SW48 (CA)/SW48-2 (3 Miles)
R5.15	-----	Flasher/W8-8/W7-3aP (1 Miles)
R5.19	-----	R2-4 (CA) (40 MPH)

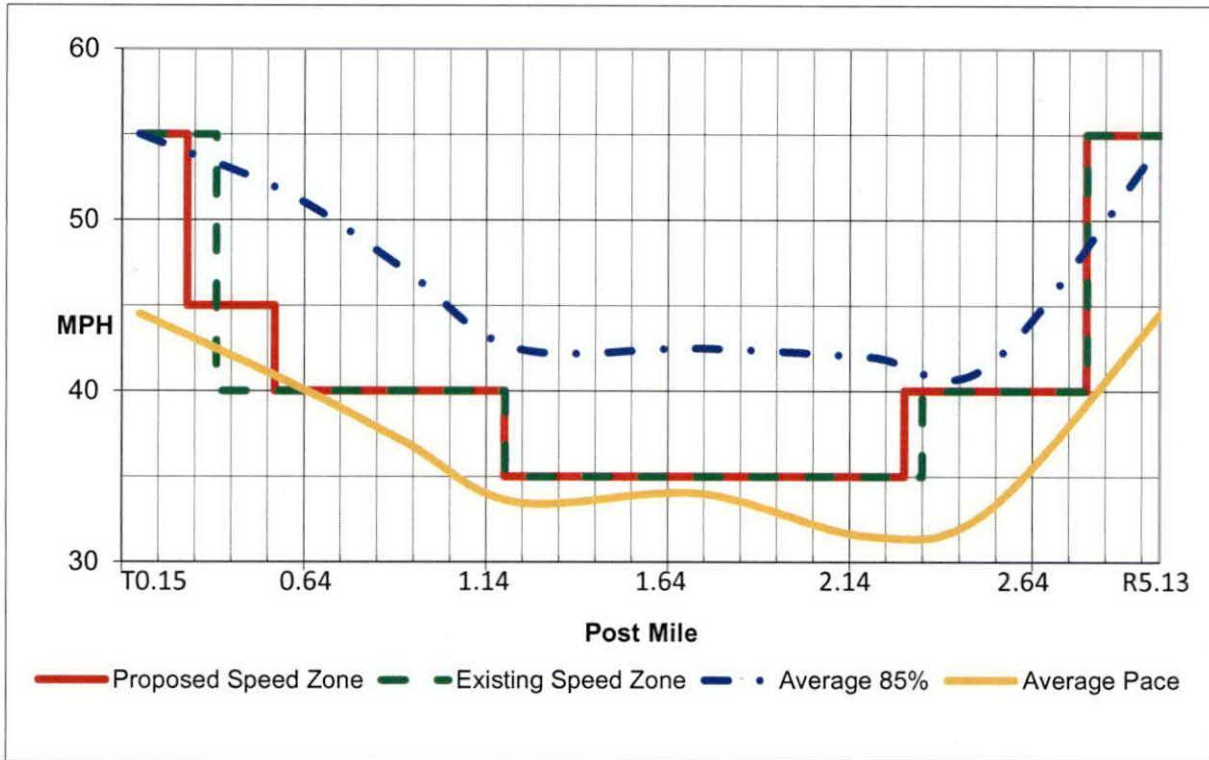
Speed Study:

Radar speed surveys were performed during the month of March and June of 2017 at eight locations along the study section. The main survey included 1,604 vehicles from PM T0.15 to R5.13. Speed study results are shown in the following tables and chart:

RESULTS OF SPEED STUDY

PM	Existing Speed Limit	Proposed Speed Limit	85 th Percentile NB	Pace NB	85 th Percentile SB	Pace SB
T0.15	55	No Change	54	45	56	44
0.56	40	45/40	51	37	52	44
0.88	40	No Change	47	37	47	37
1.18	35	No Change	45	36	40	31
1.69	35	No Change	40	32	45	36
2.15	35	No Change	39	30	45	33
2.48	40	No Change	40	32	43	34
R5.13	55	No Change	51	42	58	47

AVERAGE CRITICAL SPEED PM T0.15 to PM R5.13



COLLISION REVIEW:

A review was made for the three-year period between July 1, 2012 and June 30, 2015, of the recorded collisions on U.S. Route 101 between PM T0.15 and PM R5.13. There were 23 collisions (0 Fatal, 10 Injury, 13 Property Damage Only (PDO)) for the entire speed zone. The actual collision rate was 1.62 collisions per million vehicle miles (COL/MVM), which is 1.13 times greater than the statewide average rate of 1.43 COL/MVM for similar roadways. The principle Primary Collision Factor (PCF) was Improper Turn in 10 of 23 collisions.

1. EXISTING 55 MPH ZONE (PM T0.15 TO PM 0.32):

A review was made of the recorded collisions on the 0.129-mile segment. There were 0 collisions (0 Fatal, 0 Injury, 0 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 0.00 collisions per million vehicles (COL/MV), which is less than the statewide average rate of 0.72 COL/MV for similar roadways.

2. PROPOSED 45 MPH ZONE (PM 0.32 TO PM 0.56):

A review was conducted of recorded collisions on the 0.240-mile segment. There was 1 collision (0 Fatal, 0 Injury, 1 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 0.19 COL/MV, which is less than the statewide average rate of 0.72 COL/MV for similar roadways. The Primary Collision Factor was Other than Driver.

3. PROPOSED 40 MPH ZONE (PM 0.56 TO PM 1:15):

A review was conducted of recorded collisions on the 0.590-mile segment. There were 2 collisions (0 Fatal, 1 Injury, 1 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 0.66 COL/MVM, which is less than the statewide average rate of 1.43 COL/MVM for similar roadways. The Primary Collision Factor was Improper Turn, followed by Speeding.

4. EXISTING 35 MPH ZONE (PM 1.15 TO PM 2.25):

A review was conducted of recorded collisions on the 1.100-mile segment. There were 14 collisions (0 Fatal, 6 Injury, 8 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 2.47 COL/MVM, which is greater than the statewide average rate of 1.43 COL/MVM for similar roadways. The Primary Collision Factor was Improper Turn.

5. EXISTING 40 MPH ZONE (PM 2.25 TO PM R 2.75):

A review was conducted of recorded collisions on the 0.500-mile segment. There were 6 collisions (0 Fatal, 3 Injury, 3 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 2.34 COL/MVM, which is greater than the statewide average rate of 1.43 COL/MVM for similar roadways. The Primary Collision Factor was Improper Turn.

6. EXISTING 55 MPH ZONE (PM R 2.75 TO PM R5.13):

A review was conducted of recorded collisions on the 0.192-mile segment. There was 0 collisions (0 Fatal, 0 Injury, 0 PDO) during the same 3-year period. The *Total* actual collision rate for this segment is 0.00 COL/MV, which is less than the statewide average rate of 0.72 COL/MV for similar roadways.

COLLISION RATE SUMMARY TABLE

Speed Limit (MPH)	From (PM)	To (PM)	Actual COL/MVM	Statewide Average COL/MVM
55	T 0.15	0.32	0.00*	0.72*
45	0.32	0.56	0.19*	0.72*
40	0.56	1.15	0.66	1.43
35	1.15	2.25	2.37	1.43
40	2.25	R 2.75	2.34	1.43
55	R 2.75	R 5.13	0.00*	0.72*

* Indicates units are in COL/MV

ROADSIDE CONDITIONS:

The width of the highway and presence of any pedestrians, bicyclists, road approaches, adverse weather conditions or periodic high volumes should be readily apparent to drivers. Likewise, the curvilinear alignment and the presence of large trees close to the roadway are not hidden. Nevertheless the close proximity of huge trees, while not hidden, may present an unusual or at least an unaccustomed driving environment to some highway users. In 2008, Type P markers were placed in front of several trees

adjacent to the roadway to further delineate the roadway conditions. These Type P markers appear to have assisted in lowering the collision rates and were therefore shown under the Traffic Control Devices segment of this E&TS. Under these conditions motorists are expected to drive in accordance with the Basic Speed Law, 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 surface and width of, the highway, and in no event at a speed which endangers the safety of persons or property.”* (CVC, Section 22350.)

ROADSIDE DEVELOPMENTS:

The highway segment between PM 0.76 and PM 2.55 contains several businesses, residential buildings and the main entrance to Richardson Grove State Park.

RECOMMENDATIONS:

The District 1 Traffic Safety Office recommends changing the speed zone segments as follows:

<u>Existing Speed Zones</u>		<u>Proposed Speed Zone</u>	
55 MPH	PM T0.15 to PM 0.40	55 MPH	PM T0.15 to PM 0.32
40 MPH	PM 0.40 to PM 1.15	45 MPH	PM 0.32 to PM 0.56
35 MPH	PM 1.15 to PM 2.30	40 MPH	PM 0.56 to PM 1.15
40 MPH	PM 2.30 to PM R2.75	35 MPH	PM 1.15 to PM 2.25
55 MPH	PM R2.75 to R5.13	40 MPH	PM 2.25 to PM R2.75
		55 MPH	PM R2.75 to PM R5.13

BASIS FOR RECOMMENDATIONS:

This recommendation is based on the prevailing speeds, roadside conditions, and collision history.

The current posted speed zone, from PM 0.32 to PM 0.56, is not supported by the critical speed nor by the Manual for Traffic Control Devices (MUTCD) criteria. A 45 MPH transition zone is supported by averaging the 85th percentile speeds over the new segment, rounding down to the nearest 5 MPH increment, and then, with consideration for pedestrian and bicycle safety, reducing the posted speed limit by a further, maximum 5 MPH increment. This new transition zone should provide better driver compliance for a safe and orderly movement of traffic into and through Richardson Grove State Park.

ENFORCEMENT:

The California Highway Patrol provides speed enforcement for this segment of highway. The Superior Court of California, Humboldt County, has jurisdiction over the area.

COMMUNICATIONS:

The E&TS was submitted to Humboldt County Public Works on February 23, 2018 for their consideration and submitted to the Humboldt County Board of Supervisors.

This E&TS was reviewed by email on February 21, 2018, with Special Duty Officer William Wunderlich, from the Garberville Area CHP office. He concurred with the recommended speed zone changes between PM 0.40 and R2.75.

This E&TS will be delivered to the Garberville office of the California Highway Patrol and to the California Superior Court in Eureka, Humboldt County.

EFFECTIVE DATE:

This survey will become effective on the date of approval shown on the attached Order.

Prepared By: _____
David A. Morgan, P.E.
District 1 Asst. Traffic Safety Engineer

Approved by:

David A. Morgan
Chief, Traffic Safety Office

Tom J. Fitzgerald
Deputy District Director, Maintenance & Operations

Matthew K. Brady
District 1 Director

_____ Date

Richardson Grove E&TS # 32

March 15, 2018

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Attachments: Order Decreasing Speed Limit on State Highway
Strip Map (6 sheets)

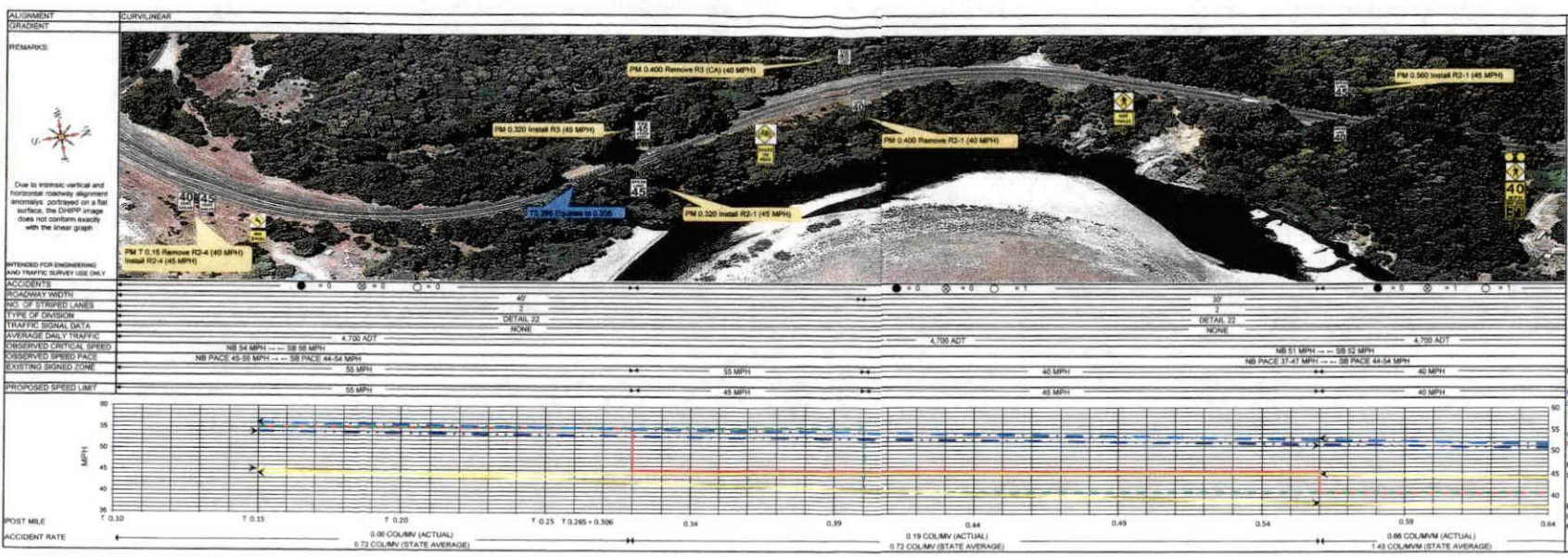
STATE OF CALIFORNIA
 BUSINESS, TRANSPORTATION AND HOUSING AGENCY
 DEPARTMENT OF TRANSPORTATION

SPEED ZONE SURVEY

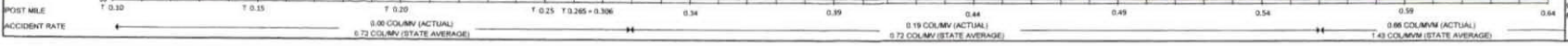
DISTRICT: 1
 COUNTY: Humboldt
 ROUTE: 101
 CITY OR TOWN: Richardson Grove
 STREET OR ROAD:
 FROM: PM T 0.15 TO: PM RS 13
 SCALE: None
 DATE: 02/02/18

LEGEND

- ROAD SIGNS
- NB CRITICAL SPEED
- SB CRITICAL SPEED
- EXISTING SPEED ZONE
- PROPOSED SPEED ZONE
- NB DATA POINT
- SB DATA POINT
- COLLISION TYPE
- PROPERTY DAMAGE ONLY
- INJURY
- FATAL



INTENDED FOR ENGINEERING AND TRAFFIC SURVEY USE ONLY	ACCIDENTS	ROADWAY WIDTH	NO. OF STRIPED LANES	TYPE OF DIVISION	TRAFFIC SIGNAL DATA	AVERAGE DAILY TRAFFIC	CONSERVED CRITICAL SPEED	CONSERVED SPEED PACE	EXISTING SPEED ZONE	PROPOSED SPEED LIMIT
		40'	2			4,700 ADT	NB 54 MPH -- SB 50 MPH	55 MPH	40 MPH	45 MPH
		40'	2			4,700 ADT	NB 51 MPH -- SB 52 MPH	55 MPH	40 MPH	40 MPH
		40'	2			4,700 ADT	NB 51 MPH -- SB 52 MPH	55 MPH	40 MPH	40 MPH



POST MILE: 0.10, 0.15, 0.20, 0.25, 0.265 + 0.306, 0.34, 0.39, 0.44, 0.49, 0.54, 0.59, 0.64

ACCIDENT RATE: 0.98 COL/MV (ACTUAL), 0.72 COL/MV (STATE AVERAGE) | 0.19 COL/MV (ACTUAL), 0.72 COL/MV (STATE AVERAGE) | 0.86 COL/MV (ACTUAL), 1.43 COL/MV (STATE AVERAGE)

SPEED ZONE SURVEY

DISTRICT: 1
 COUNTY: Humboldt
 ROUTE: 101
 CITY OR TOWN: Richardson Grove
 STREET OR ROAD:
 FROM PM 1 0.15 TO PM RS 13
 SCALE: None
 DATE: 3/21/2018

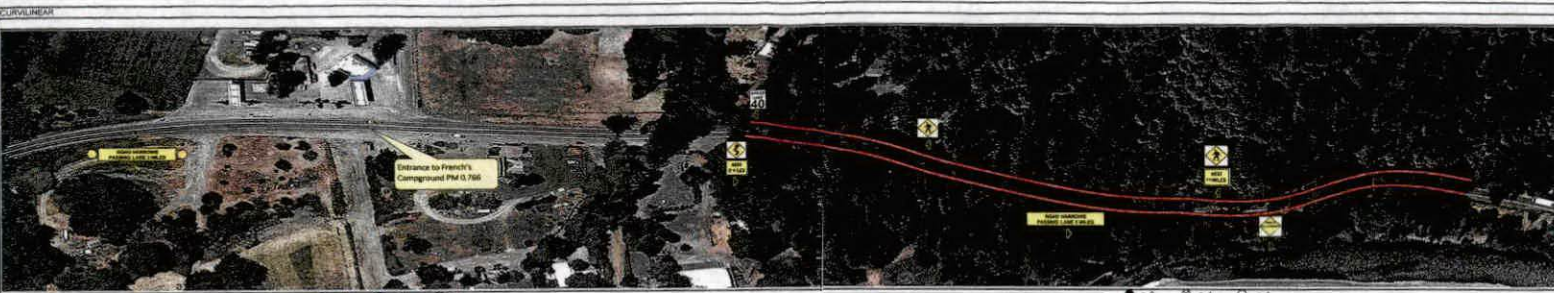
ALIGNMENT CURVILINEAR
DISCREPANT
REMARKS

Due to intrinsic vertical and horizontal roadway alignment anomalies, portrayed on a flat surface, the CHS&P image does not conform exactly with the linear graph.

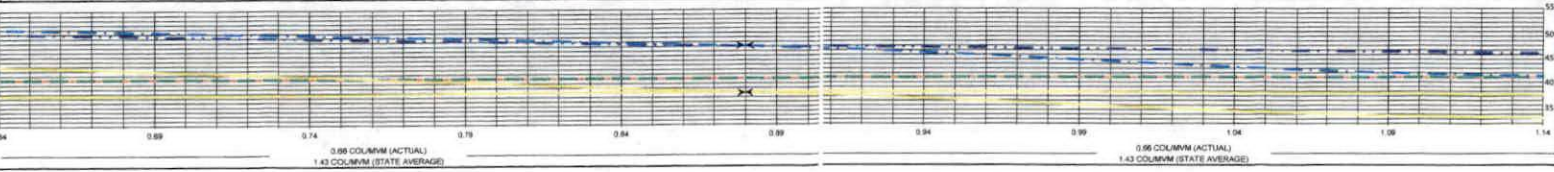
INTENDED FOR ENGINEERING AND TRAFFIC SURVEY USE ONLY

ACCIDENTS
 ROADWAY WIDTH
 NO. OF STRIPED LANES
 TYPE OF DIVISION
 TRAFFIC SIGNAL DATA
 AVERAGE DAILY TRAFFIC
 OBSERVED CRITICAL SPEED
 OBSERVED SPEED PACE
 EXISTING SPEED ZONE
 PROPOSED SPEED LIMIT

POINT MILE
 ACCIDENT RATE



ACCIDENTS	0	0	1	0	1
ROADWAY WIDTH	37			37	
NO. OF STRIPED LANES	2			2	
TYPE OF DIVISION	DETAIL 22			DETAIL 22	
TRAFFIC SIGNAL DATA	NONE			NONE	
AVERAGE DAILY TRAFFIC	4,700 ADT			4,700 ADT	
OBSERVED CRITICAL SPEED					
OBSERVED SPEED PACE					
EXISTING SPEED ZONE					
PROPOSED SPEED LIMIT	40 MPH			40 MPH	



LEGEND

ROAD SIGNS

- NO STOPPING
- NO PARKING

CRITICAL SPEED

- NB CRITICAL SPEED
- SB CRITICAL SPEED

SPEED ZONE

- EXISTING SPEED ZONE
- PROPOSED SPEED ZONE

DATA POINT

- NB DATA POINT
- SB DATA POINT

COLLISION TYPE

- PROPERTY DAMAGE ONLY
- INJURY
- FATAL

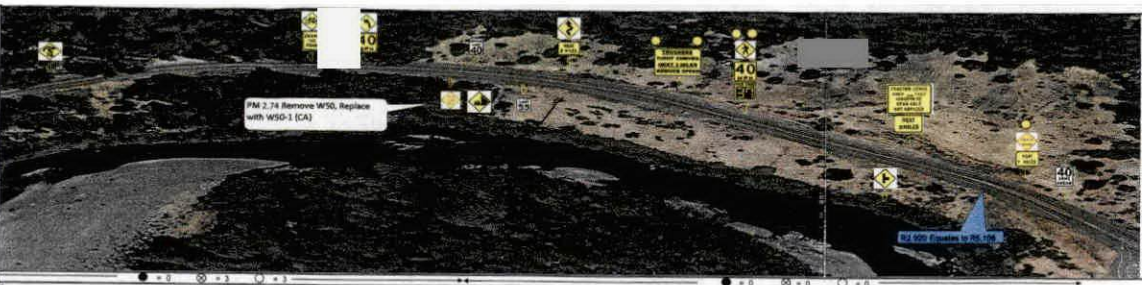
0.66 COLUMN (ACTUAL) 1.43 COLUMN (STATE AVERAGE) 0.66 COLUMN (ACTUAL) 1.43 COLUMN (STATE AVERAGE)

SPEED ZONE SURVEY

DISTRICT: 1
 COUNTY: Humboldt
 ROUTE: 101
 CITY OR TOWN: Richardson Grove
 STREET OR ROAD:
 FROM PM 1.6:15 TO PM 16.13
 SCALE: None
 DATE: 2/21/2018

REMARKS

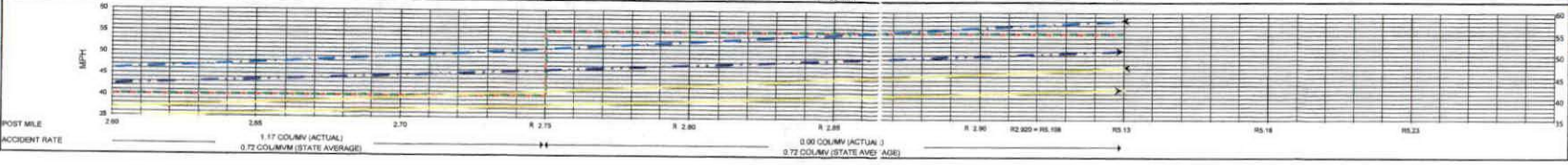
Due to intrinsic vertical and horizontal (slew) alignment anomalies displayed on a flat surface, the CHRPPI image does not conform exactly with the linear graph



INTENDED FOR ENGINEERING AND TRAFFIC SURVEY USE ONLY

ACCIDENTS	● = 0 ○ = 3 ◐ = 3	● = 0 ○ = 0 ◐ = 0
ROADWAY WIDTH	37'	40'
NO. OF STOPPED LANES	2	2
TYPE OF DIVISION	DETAIL 22	DETAIL 22
TRAFFIC SIGNAL DATA	NONE	NONE
AVERAGE DAILY TRAFFIC	4,700 ADT	4,700 ADT
OBSERVED CRITICAL SPEED		
OBSERVED SPEED PACE	40 MPH	55 MPH
EXISTING SPEED ZONE	40 MPH	55 MPH
PROPOSED SPEED LIMIT	40 MPH	55 MPH

NB 51 MPH — SB 58 MPH
 NB PACE 43-52 MPH — SB PACE 47-57 MPH



LEGEND

- ROAD SIGNS
- NB CRITICAL SPEED — — —
 - SB CRITICAL SPEED — — —
 - EXISTING SPEED ZONE — — —
 - PROPOSED SPEED ZONE — — —
 - NB DATA POINT ▲
 - SB DATA POINT ▼
 - COLLISION TYPE
 - PROPERTY DAMAGE ONLY ○
 - INJURY ○
 - FATAL ●