



Santa Cruz County Regional Transportation Commission's

BICYCLE COMMITTEE

AGENDA

Monday, September 23, 2013

6:00 pm to 8:30 pm

Note Special Date and Earlier Start Time

**RTC Office
1523 Pacific Ave
Santa Cruz, CA 95060**

1. Call to Order
2. Introductions
3. Announcements – RTC staff
4. Oral communications – members and public

The Committee will receive oral communications during this time on items not on today's agenda. Presentations must be within the jurisdiction of the Committee, and may be limited in time at the discretion of the Chair. Committee members will not take action or respond immediately to any Oral Communications presented, but may choose to follow up at a later time, either individually, or on a subsequent Committee agenda.

5. Additions or deletions to consent and regular agendas

CONSENT AGENDA

All items appearing on the consent agenda are considered to be minor or non-controversial and will be acted upon in one motion if no member of the Committee or public wishes an item be removed and discussed on the regular agenda. Members of the Committee may raise questions, seek clarification or add directions to Consent Agenda items without removing the item from the Consent Agenda as long as no other committee member objects to the change.

6. Approve draft minutes of the August 19, 2013 Bicycle Committee meeting (pages 3-5)
7. Accept Bicycle Committee roster (page 6)
8. Accept summary of Bicycle Hazard Reports (page 7)
9. Accept response letter from Caltrans regarding the Bicycle Committee's request for Highway 1 shoulder and Wilder Ranch multi-use path pavement improvements and safety measures (pages 8-9)

REGULAR AGENDA

10. Centerline and outside shoulder rumble strip project in Santa Cruz County on Route 1 from Shafter Road to Swanton Road – Presentation from Doug Hessing, Caltrans District 5 Project Manager (pages 10 – 32)
11. Member updates related to Committee functions
12. Adjourn

NEXT MEETING: The next Bicycle Committee meeting is scheduled for Monday, October 21st, from the special time of 6:00pm to 8:30pm at the RTC office, 1523 Pacific Ave, Santa Cruz, CA.

HOW TO REACH US

*Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue, Santa Cruz, CA 95060
phone: (831) 460-3200 / fax (831) 460-3215
email: info@sccrtc.org / website: www.sccrtc.org*

AGENDAS ONLINE:

To receive email notification when the Bicycle Committee meeting agenda packets are posted on our website, please call (831) 460-3201 or email ccaletti@sccrtc.org to subscribe.

ACCOMMODATIONS FOR PEOPLE WITH DISABILITIES

The Santa Cruz County Regional Transportation Commission does not discriminate on the basis of disability and no person shall, by reason of a disability, be denied the benefits of its services, programs, or activities. This meeting location is an accessible facility. If you wish to attend this meeting and require special assistance in order to participate, please contact RTC staff at 460-3200 (CRS 800/735-2929) at least three working days in advance of this meeting to make arrangements. People with disabilities may request a copy of the agenda in an alternative format. As a courtesy to those person affected, Please attend the meeting smoke and scent-free.

SERVICIOS DE TRADUCCIÓN/TRANSLATION SERVICES

Si gusta estar presente o participar en esta junta de la Comisión Regional de Transporte del condado de Santa Cruz y necesita información o servicios de traducción al español por favor llame por lo menos con tres días laborables de anticipo al (831) 460-3200 para hacer los arreglos necesarios. (Spanish language translation is available on an as needed basis. Please make advance arrangements (at least three days in advance by calling (831) 460-3200.

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Santa Cruz County Regional Transportation Commission's

BICYCLE COMMITTEE

Minutes - Draft

Monday, August 19, 2013

6:00 p.m.

RTC Office
1523 Pacific Ave
Santa Cruz, CA 95060

1. Call to Order
2. Introductions

Members Present:

Kem Akol, District 1
David Casterson, District 2, Chair
Peter Scott, District 3
Amelia Conlen, District 4
Rick Hyman, District 5
Bill Fieberling, City of Santa Cruz
Andy Ward, City of Capitola, Vice-Chair
Lex Rau, City of Scotts Valley
Rob Straka, Ecology Action/Bike to Work
Jim Langley, CTSC (Alt.)

Staff:

Cory Caletti, Senior Transportation Planner
Grace Blakeslee, Senior Transportation Planner

Vacancies:

District 4 – Alternate
District 5 – Alternate
City of Watsonville – Alternate

Unexcused Absences:

Excused Absences:

Eric Horton, District 2 (Alt.)
Holly Tyler, District 1 (Alt.)
Gary Milburn, City of Scotts Valley (Alt.)
Will Menchine, District 3 (Alt.)
Piet Canin, Ecology Action/Bike-to-Work (Alt.)
Daniel Kostelec, City of Capitola (Alt.)
Leo Jed, CTSC
Carlos Garza, City of Santa Cruz (Alt.)
Myrna Sherman, City of Watsonville

Guests:

Theresa Rogerson and Becky Sox, County Health Services Agency
Alex Page, City of Santa Cruz Planning Dept Intern
Melissa Ott, UCSC IDEASS student
Brenden Fant, UCSC IDEASS student

3. Announcements – Cory Caletti, RTC staff, announced that the RTC's grant application to the Federal Lands Access Program for the Monterey Bay Sanctuary Scenic Trail Network project was not identified on the short list and is unlikely to be funded. She also updated members on the final stages of the MBSST Network master planning effort, Caltrans' rumble strip project and upcoming committee review opportunity, as well as the list of projects approved by the RTC for the Regional Transportation Plan

update. Also, she informed members that the RTC was awarded a \$250,000 grant to produce a passenger train service study.

4. Oral communications – None
5. Additions or deletions to consent and regular agendas – None

CONSENT AGENDA

A motion (Fieberling/Ward) to approve the consent agenda as amended passed unanimously.

6. Approved draft minutes of the June 10, 2013 Bicycle Committee meeting
7. Accepted Bicycle Committee roster
8. Accepted summary of Bicycle Hazard Reports
9. Accepted updated FY 2013-2014 Bicycle Committee meeting schedule
10. Accepted letter to the County of Santa Cruz Public Works Department regarding recommendations for improvements to the East Cliff Drive Parkway
11. Accepted letter from the Bicycle Committee to the County of Santa Cruz Public Works Department with recommendations for changes to the County's Capital Improvement Program
12. Accepted letter from the Bicycle Committee to Caltrans regarding Highway 1 shoulder and Wilder Ranch multi-use path pavement quality after overgrown vegetation cut-back, and the need for Bike May Use Full Lanes signs to the approach of the Scott Creek and Waddell Creek bridge construction where the shoulder is closed

REGULAR AGENDA

13. Draft Monterey Bay Area Complete Streets Guidelines –Grace Blakeslee, RTC Senior Transportation Planner, provided the third presentation on the Complete Streets Guidebook over the past few months and requested that the Committee recommend that the RTC adopt the document so that it may be used by local jurisdictions as a resource. A motion (Conlen/Scott) to recommend that the RTC adopt the Complete Streets Guidebook passed unanimously. A subsequent request was made to agendize a discussion of Caltrans' Main Street Program, similar to complete streets, and its relationship to Mission Street improvements in the City of Santa Cruz.
14. Innovative Bicycle Facilities and Treatments in Current Regulatory Standard Manuals – Bicycle Committee member Amelia Conlen provided a PowerPoint presentation of recently introduced bicycle facility treatments including but not limited to bike boxes, cycle tracks, buffered bike lanes, etc. and their relationship to regulatory standards. The presentation was provided for information only.
15. 2011 Bicyclist Injuries and Fatalities for Santa Cruz County Report and 2013 Bicycle Safety Observation Study –Becky Sox, Health Education Intern with County of Santa Cruz Health Services Agency (HSA) and Theresia Rogerson, HSA Community Traffic Safety Coalition Program, summarized the staff report and reports and highlighted changes in the reporting format. Most notably, HSA staff reviewed historic observation data and concluded that Santa Cruz County has seen a 167% increase in bicycle ridership over the 2003-2013 time span.

16. UCSC and Westside Santa Cruz Bicycle Transit Planning Study – UCSC IDEASS and members Brenden Fant and Melissa Ott presented the Bicycle Transit Planning project that they produced focusing on routes to and from UCSC that are in need of infrastructure improvements to increase safety and connectivity. Members provided input and suggestions for additional research should the study be expanded in the next school year.
17. Member updates related to Committee functions – Amelia Conlen summarized the ad-hoc sub-committee's recommendations for the hybrid scenarios developed as part of the 2014 Regional Transportation Plan. Lex Rau mentioned various bicycle traffic actuation deficiencies in the City of Scotts Valley and his efforts to identify improvements in coordination with City Public Works staff.
18. Adjourned: 8:45 p.m.

NEXT MEETING: The next Bicycle Committee meeting is scheduled for Monday, September 23, 2013, from the special time of 6:00pm to 8:30pm at the RTC office, 1523 Pacific Ave, Santa Cruz, CA.

Minutes respectfully prepared and submitted by:

Cory Caletti, Senior Transportation Planner

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BIKE COMMITTEE ROSTER – September, 2013

Representing	Member Name/Contact Info	Appointment Dates
District 1 - Voting Soquel, Live Oak, part of Capitola	Kem Akol kemakol@msn.com 247-2944	First Appointed: 1993 Term Expires: 3/16
Alternate	Holly M. Tyler holly.m.tyler@comcast.net 818-2117	First Appointed: 2010 Term Expires: 3/16
District 2 - Voting Aptos, Corralitos, part of Capitola, Nisene Marks, Freedom, PajDunes	David Casterson, Chair dbcasteron@gmail.com 588-2068	First Appointed: 2005 Term Expires: 3/15
Alternate	Eric Horton erichorton@design@gmail.com 419-7296	First Appointed: 3/09 Term Expires: 3/15
District 3 - Voting Big Basin, Davenport, Bonny Doon, City of Santa Cruz	Peter Scott drip@ucsc.edu 423-0796	First Appointed: 2007 Term Expires: 3/16
Alternate	William Menchine (Will) menchine@cruzio.com 426-3528	First Appointed: 4/02 Term Expires: 3/16
District 4 - Voting Watsonville, part of Corralitos	Amelia Conlen director@peoplepowersc.org 425-0665	First Appointed: 5/13 Term Expires: 3/15
Alternate	Vacant	Term Expires: 3/15
District 5 - Voting SL Valley, Summit, Scotts Valley, part of Santa Cruz	Rick Hyman bikerick@att.net	First Appointed: 1989 Term Expires: 3/16
Alternate	Vacant	Term Expires: 3/16
City of Capitola - Voting	Andy Ward, Vice Chair Andrew.ward@plantronics.com 462-6653	First Appointed: 2005 Term Expires: 3/14
Alternate	Daniel Kostelec dnlkostelec@yahoo.com 325-9623	First Appointed: Term Expires: 3/14
City of Santa Cruz - Voting	Wilson Fieberling anbfieb@yahoo.com	First Appointed: 2/97 Term Expires: 3/15
Alternate	Carlos Garza carlos@cruzio.com	First Appointed: 4/02 Term Expires: 3/15
City of Scotts Valley - Voting	Lex Rau lexrau@sbcglobal.net 419-1817	First Appointed: 2007 Term Expires: 3/14
Alternate	Gary Milburn 427-3839 hm g.milburn@sbcglobal.net/438-2888 ext 210 wk	First Appointed: 1997 Term Expires: 3/14
City of Watsonville - Voting	Myrna Sherman calgary1947@gmail.com	Term Expires: 3/16
Alternate	Vacant	Term Expires: 3/16
Bike To Work - Voting	Rob Straka rob@ecoact.org 909-967-0204	First Appointed: 5/13 Term Expires: 3/16
Alternate	Piet Canin pcanin@ecoact.org 426-5925 ext. 127	First Appointed: 4/02 Term Expires: 3/16
Community Traffic Safety Coalition - Voting	Leo Jed leojed@gmail.com 425-2650	First Appointed: 3/09 Term Expires: 3/15
Alternate	Jim Langley jim@jimlangley.net 423-7248	First Appointed: 4/02 Term Expires: 3/15

All phone numbers have the (831) area code unless otherwise noted.

**September 23, 2013
Hazard Report**

Date	First Name	Last Name	Contact Info	Location	Cross Street	City	Category	Additional Comments	Forwarded To	Forwarded Date	Response	Images
09/16/13	Paul	DePlume	phdeplume@yahoo.com	E Cliff Dr	Pleasure Pt	Santa Cruz	other	rider states cross walk and stop sign poles are in middle of access curb cuts on 32nd, 36th, 38th, 41st, making it a hazard of hitting them when accessing the bikeway.	General Dept of Co of Santa Cruz	09/17/13		
09/16/13	John	Coha	coha@ucsc.edu	San Lorenzo River Bike path West side	Highway 1	Santa Cruz	plant overgrowth or interference	rider states large tree trunk overhanging the bike path, at night with weak light this is not visible and dangerous for cyclist	Cheryl Schmitt	09/16/13		
09/16/13	Trician	Comings	tricianso@mindspring.com	Riverside Bridge Underpass	San Lorenzo Blvd	Santa Cruz	plant overgrowth or interference, debris on shoulder or bikeway	rider states vegetation on the underpass on the north side of riverside bridge is dangerous to pedestrians and cyclists as it encroaches on the path	Cheryl Schmit	09/16/13		
09/12/13	Eva	Nardell	evasimone@yahoo.com	N Branciforte Dr	Goss Ave	Santa Cruz	pavement cracks	rider states sidewalk in front of 1350 is cracked and sinking away on sides, sidewalk in front of 1334 tilts between two sections creating a significant lip or shelf, these are hazards for wheelchairs, bikes (many kids use this sidewalk as their bike route to and from school, and pedestrians	Cheryl Schmitt	09/13/13		
09/07/13	Richard	Masoner	rmasoner@gmail.com	Mt. Hermon Rd	Scotts Valley Dr	Scotts Valley	Other	rider asks the reason to use bike lane to place graham construction road closure cones for scotts valley dr pavement work	Trish McGrath, Frank Alvarez	09/09/13		Bicycle Hazard Downloaded Images 2013 September
08/27/13	Connie	Wilson	camt@cruzio.com	River Levy		Santa Cruz	pavement cracks	rider states there is a large linear break in pavement, cyclist's wheel could hit and cause cyclist to crash if wheel catches break in pavement	Cheryl Schmitt	08/28/13	From Cheryl - I inspected, took photos, and notified Streets Maintenance - 08/28/13	
08/22/13	David	Kadotani	dkadotani@hotmail.com	Highway 152		Santa Cruz County	rough pavement or potholes	rider states asphalt slippage problem btwn crossroads shopping center and along parkway southbound. Areas near edge of road where crack are wide enough to catch bicycle tire and flip cyclist over handlebars. Two cracks several feet long run the same direction	Tom Barnett Caltrans	08/23/13	From Tom - We will take a look at this area and make the needed repairs. Thank you, Tom - 08/27/13	
08/19/13	Colleen	Sands	colleensands1945@gmail.com	Merrill St	14th Ave	Santa Cruz	plant overgrowth or interference	rider states overgrowth of bushes on right hand side of road causes cars to park part way into street making street dangerous	General Dept of Co of Santa Cruz	08/20/13		

DEPARTMENT OF TRANSPORTATION

50 HIGUERA STREET
SAN LUIS OBISPO, CA 93401-5415
PHONE (805) 549-3101
FAX (805) 549-3329
TTY 711
<http://www.dot.ca.gov/dist05/>



*Flex your power!
Be energy efficient!*

September 11, 2013

David Casterson
Bicycle Committee Chair
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, California 95060



Dear Mr. Casterson:

This is in response to your recent correspondence to the California Department of Transportation (Caltrans) regarding bicyclist concerns along Highway 1 in Santa Cruz County.

We would like to inform you that several of your concerns are located within the limits of an on-going construction project. The grinding of the pavement was not a result of vegetation removal methods but instead removed the existing dike in order to facilitate guardrail installation. Once the guardrail has been constructed, the dike will be restored. In addition, any over-grinding that may have occurred at the edge of the pavement will be remedied by the contractor at that time.

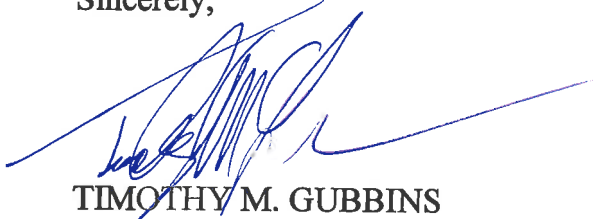
The guardrail project also includes locations adjacent to Scott and Waddell Creek Bridges. The work at these two locations has been completed and the temporary concrete barrier that restricted the pavement width is scheduled to be removed this week. As a result, the full pavement width will be restored to pre-construction conditions so it will not be necessary to install the Bikes May Use Full Lane (BMUFL) sign you requested.

In regards to the paved section of the Wilder Ranch multi-use path, we typically mow this location twice a year to control vegetation. Chemical spraying is avoided at this location due to the use of the path by citizens and animals, the close proximity to farmlands, and the known habitat of endangered species. Given our very limited personnel and equipment resources, we must utilize the most efficient method for maintaining these types of facilities. The path is inspected regularly and any damage that limits its use will be addressed as soon as possible.

David Casterson
September 11, 2013
Page 2

Thank your contacting us. I hope the above information adequately addresses your concerns.

Sincerely,



TIMOTHY M. GUBBINS
District Director

cc: Santa Cruz County Regional Transportation Commission
Santa Cruz County Regional Transportation Comission's Bicycle Committee
Doug Hessing, Caltrans Project Manager

TO: Bicycle Committee
FROM: Cory Caletti, Senior Transportation Planner
RE: Highway 1 Rumble Strips Project

RECOMMENDATION

Staff recommends that the Bicycle Committee receive a presentation from Caltrans and consider plans to install rumble strips on Highway 1 from Shaffer Road to Swanton Road past Davenport.

BACKGROUND

At the April 2012 meeting, the Bicycle Committee received a presentation on a project initiated by Caltrans to install rumble strips on Highway 1 from Shaffer Road in Santa Cruz to Swanton Road past Davenport in response to a high number of run-off-the-road collisions. Rumble strips are grooved indentations effective in preventing run-off-the-road collisions by alerting distracted drivers when they are veering off the travel way. Rumble strips, however, can also have negative impacts on bicyclists as they are uncomfortable to ride over and can cause cyclists to lose control of their bicycle and fall. They also limit a cyclist's ability to maneuver within a shoulder or bike lane in response to debris or other hazard avoidance need.

The Bike Committee packet for the April 2012 meeting can be located here:

<http://sccrtc.org/wp-content/uploads/2012/04/04-09-2012-bike-agenda.pdf>

The packet contains a staff report, Caltrans findings, as well as the Ad-Hoc Committee's summary of conditions and concerns. Also included are approximately 90 letters opposing the project submitted from bicyclists all over the country, copies of online publications' opposition as well as that of the League of American Cyclists and the American Cycling Association. Caltrans indicated having received a similar number of letters. Dozens were also sent to Governor Brown.

Following the presentation, Bicycle Committee member Leo Moll and RTC staff Cory Caletti were appointed to Caltrans Project Development Team. Since that time, Mr. Moll and RTC staff have been working with Caltrans to refine the project and address Bike Committee and public concerns.

In preparation for this meeting, the Bike Committee was made aware that a presentation was forthcoming, that the project was scaled back in response to the Bicycle Committee concerns, and requested that the Project Development Team work with Caltrans to bring additional information to the September meeting as summarized in Attachment 2.

DISCUSSION

Caltrans initiated a project to install shoulder or edge line rumble strips and centerline rumble strips on Highway 1 between Shaffer Road and Swanton Road, north of Davenport. The project received state-wide and national attention due to wide-spread concern about the potential negative impacts to the popular, state designated Pacific Coast Bicycle Route which draws many charity rides, races, touring cyclists and other local and visiting recreationalists.

Caltrans presented the project to the Bicycle Committee in April, 2012. Following that presentation, Caltrans made modifications, which will be outlined at the Sept 23rd meeting. Caltrans' rumble strip project manager, Doug Hessing, and other Caltrans District 5 representatives, will provide a presentation regarding the crash analysis leading to the project's initiation, address concerns regarding adverse impacts to bicycle ridership, outline changes from the original project made in response to Bike Committee concerns and provide a timeline.

A summary from Doug Hessing is provided here:

“The original scope of the project is to provide a centerline rumble strip for the full project limits with gaps at intersections and Davenport. In addition to the centerline rumble strip the project proposes to install right shoulder rumble strips where we can consistently provide at least 5' of clear shoulder to accommodate bicycles.

Caltrans' standard right shoulder rumble strip is 12" wide and 5/16" deep and placed such that it occupies 18" of the shoulder. In order to provide the full shoulder with for the bicycling community we are proposing an alternative right shoulder rumble strip that is 6" wide , 5/16" deep and is placed on top of the white line and does not occupy any of the shoulder.

The first four miles of the project limits from Shaffer road north meet the requirements of providing at least 5 ' clear shoulder and would receive the alternative rumble strip detail. We are not proposing to install short sections of right shoulder rumble strips. The last 6 miles of the project does not consistently meet the requirements of providing at least 5' clear shoulder so this project would not install the shoulder rumble strips on the last 6 miles.”

Construction is scheduled to being in December 2014. As with all RTC and advisory committee meetings, this meeting is open to the public.

SUMMARY

Staff recommends that the Bicycle Committee receive a presentation regarding Caltrans' Highway 1 rumble strip project from Shaffer Road to Swanton Road, north of Davenport and provide input. The project is anticipated to go to construction in December, 2014.

Attachments:

1. Excerpt from April, 2012 Bicycle Committee meeting minutes
2. Summary of Bike Committee issues for Caltrans consideration (from June, 2013 meeting)
3. Caltrans' PowerPoint presentation for September 23rd meeting and supplemental details

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Attachment 1

Excerpt from Bicycle Committee Minutes from the April, 2012 Meeting

14. Rumble Strips – Cory Caletti summarized the staff report indicating that Caltrans is analyzing installation of shoulder and centerline rumble strips on Highway 1 between Shaffer Road in Santa Cruz and Swanton Road, north of Davenport, in response to high run off the road injury collisions. Over 90 comments from the public were received by the RTC expressing opposition to the project due to potentially detrimental impacts to bicyclists on a roadway with high bicycle ridership. An equally high number of comments were received by Caltrans and some were sent to Governor Brown.

Dario Senior, Caltrans Senior Principal Engineer, introduced the Caltrans project team in attendance including the Deputy Director of Planning and Maintenance Operations, the local planning liaison, the Highway 1 rumble strip project manager. He went on to present a PowerPoint presentation (available online at: <http://www.dot.ca.gov/dist05/traffic/>) summarizing the collision data analyzed, the timeframe for project implementation, the steps leading to project delivery, and ways to mitigate impacts to cyclists. After Mr. Senior responded to questions from the Bicycle Committee regarding project details, Chair Casterson opened the floor for the Committee to receive comments from the public.

Greg McPheeters, representing the California Bicycle Coalition, spoke expressing concern about the treatment's impact to the safety of the high number of bicyclists traveling on the nationally designated Pacific Coast Bicycle Route and on the bicyclist eco-tourism the scenic roadway attracts. Micah Posner from People Power addressed the need to focus on problem of distracted driving and asked that rumble strips not be select as a solution since it poses a hazard to the non-motoring public. He noted that this treatment is not appropriate in the context of a nationally revered cycling route. In addition, 13 members of the public spoke with the large majority expressing opposition to the project as presented. Some asked that Caltrans consider treatments that are less impactful to cyclists, such as centerline rumble strips only and the possibility of having the rumble strip place predominantly over the white edge line. Those speaking in favor noted the safety benefits to all road users that the project would provide. After some discussion among Bicycle Committee members and additional information from Caltrans, a motion was made (Akol/Scott) to write a letter to Caltrans expressing concerns with the application of centerline and shoulder rumble strips on Highway 1 between Shaffer and Swanton roads. The motion passed with one abstention.

Attachment 2

Rumble Strips - Summary of Bike Committee requests and Community input for PDT mtg on June 20, 2013

- Bike Com and the bike community that staff has heard from are concerned about negative effects on safe travel where rumble strips are installed. From the comments received, they've been almost universally opposed but there is an understanding that due to certain injury/fatality thresholds Caltrans believes some action is needed and compromises need to be reached.
- The Bike Com would still like to see only centerline and not shoulder rumble strips, if the current proposal is the basis of discussion.
- Crash statistics presented was for ~six year period, 2004 thru 2010. Please update these stats with best available data. Were the 77 crashes in the 10 mile section or 4 mile proposed alignment? If in the 10 mile section, please provide the crash states in the proposed 4 mile section, including the left, ROR, and cyclist involved percentages. How do the 77 collisions (~6 per year) compare to the number of collisions for previous periods?
- Average daily bicycle counts are needed. The concern is that bicyclists may be disproportionately impacted when you consider number of bike riders and bicyclist injuries/fatalities vs motor vehicles and number of motorist injuries/fatalities. This concern should be investigated by having accurate numbers of all users which are currently not factored in. The Ad-Hoc Committee did some initial analysis based on their estimates and believe this disproportional impact exists.
- Measures should be identified to enhance the safety of bicyclists rather than compromise it. Additional safety measures should be considered (rather than hazards) like reducing the speed limit. The Bike Com understands that a speed study might undermine this effort so are not requesting it.
- The Bike Com would like the alternative treatments to be used for the first 4 miles of shoulder rumble strips (if the distance can't be further reduced) and would like to 10/15 foot gaps every 40/60 feet of rumble strip. Exact distance can be identified later.
- The Bike Com wants to test out the alternative treatment locally prior to any installation.
- The Bike Com would like to see the additional 2 inches beyond what will go on the white edge line extended into the motor vehicle side of the road way instead of the shoulder side, as depicted in "alternative rumble strip" photo sent for the PDT meeting.
- What is the experimental process so that this gap with alternative treatment can be pursued?
- Also, the Bike Com would like to see if there was ever any consideration given to installing rumble strip in each direction just to either side of the center in the travel lane in each

direction's. This would be in order to replace a treatment where there's centerline and one rumble strip on each shoulder which would require just 2 rumble strips rather than 3 and would not adversely impact anyone. The motor vehicle would straddle this center travel lane strip and offsetting just a tad from center would also not impact motorcyclist.

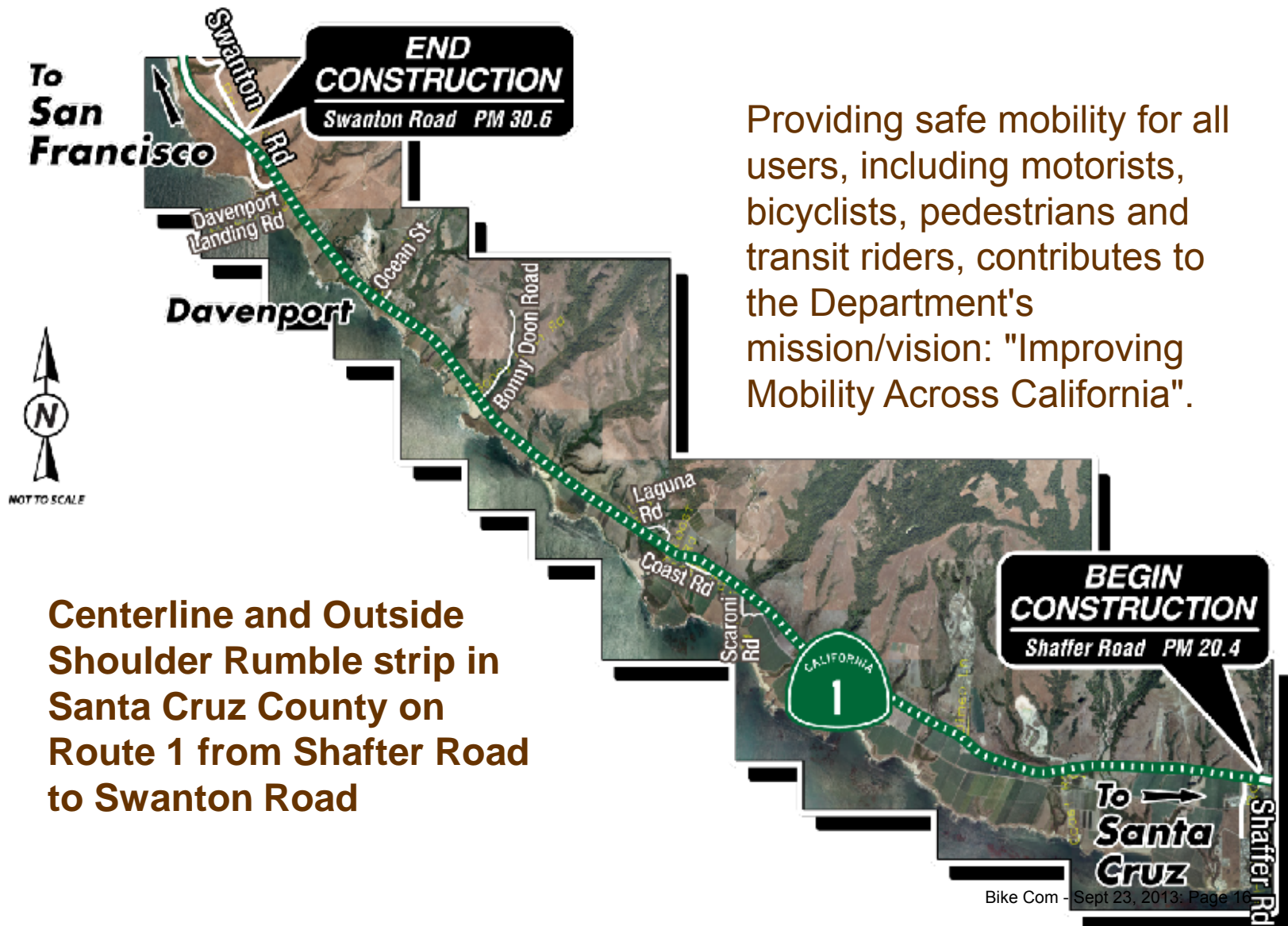
- Proposed Schedule – Caltrans to present on Sept 23 to Bike Com and on Oct 3rd to RTC

SCR-1 RUMBLE STRIP PROJECT

**In Santa Cruz County on Route 1 from Shafter Road to Swanton Road
Centerline and Outside Shoulder Rumble Strip**



PROJECT LOCATION MAP





HOW CALTRANS BUILDS PROJECTS

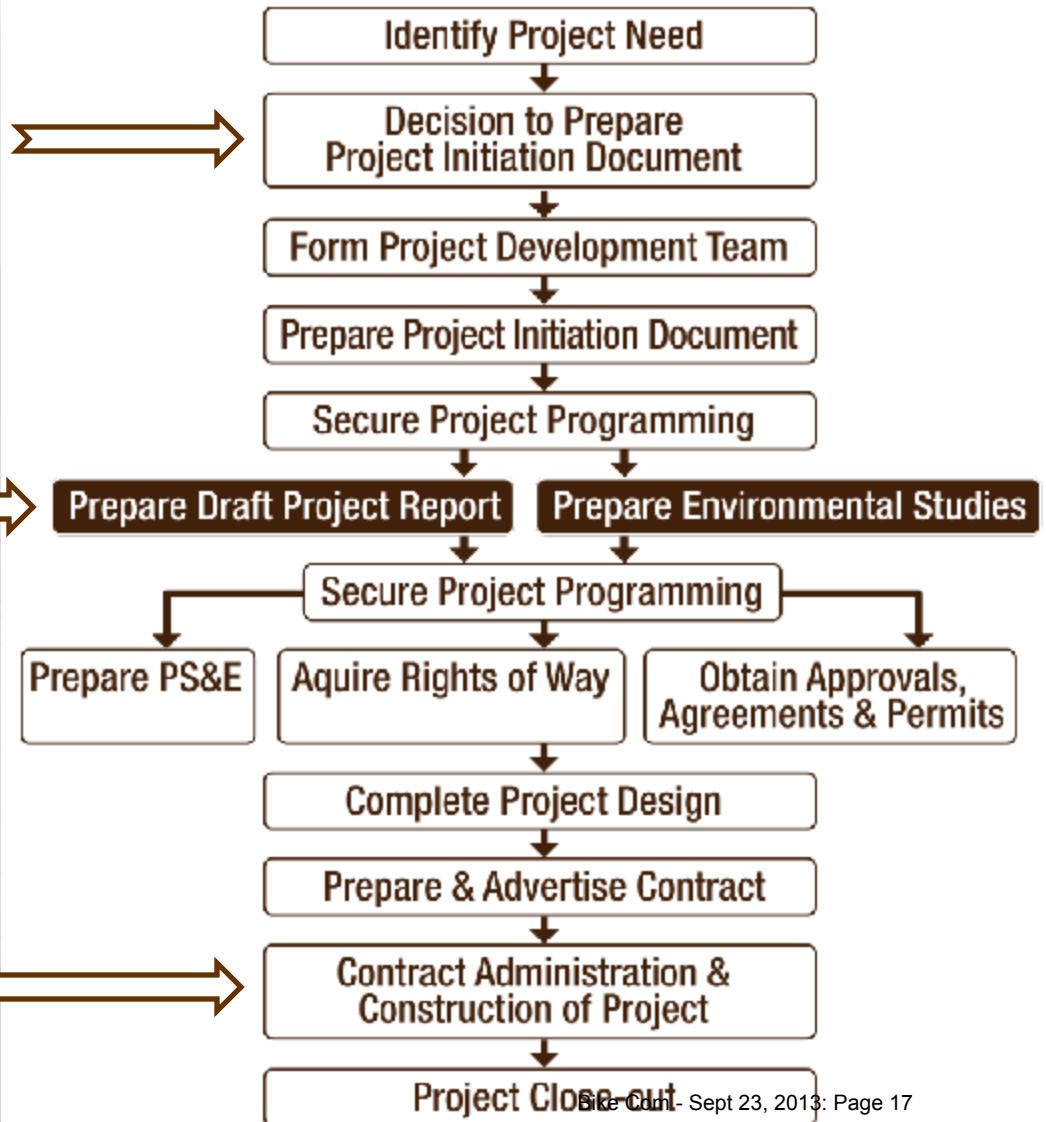
April 9, 2012

Bicycle Committee Meeting

Caltrans attended to share plans and hear feedback

We Are Here
September 2013

December 2014



WHAT ARE RUMBLE STRIPS?

What are Rumble Strips?

- Rumble strips are a series of ground in indentations into the pavement.
- They alert inattentive or distracted drivers through vibration and noise.

Why are they used?

- To reduce run-off-the-road collisions.
- To reduce cross-median head-on collisions.
- To reduce cross-centerline head-on collisions.

What is our Goal?

- Safety – To provide the safest transportation system for all users including motorists, bicyclists, pedestrians, and workers.
- Mobility – To maximize transportation system performance and flexibility.



TRAFFIC SAFETY FACTS

SAFETY FACTS

- Drivers spend much of their time behind the wheel engaged in distracted behavior.

- Eating, smoking, or adjusting music while driving can be just as dangerous as using the cell phone.

- Passengers are one of the most frequently reported causes of distraction.

			
		<h1>TRAFFIC SAFETY FACTS</h1> <h2>Research Note</h2>	
DOT HS 811 737		Summary of Statistical Findings	April 2013
Fatal Crashes, Drivers in Fatal Crashes, and Fatalities, 2011			
	Crashes	Drivers	Fatalities
Total	29,757	43,668	32,367
Distraction-Affected (D-A)	3,020 (10% of total crashes)	3,085 (7% of total drivers)	3,331 (10% of total fatalities)
Cell Phone in Use	350 (12% of D-A crashes)	368 (12% of distracted drivers)	385 (12% of fatalities in D-A crashes)
Source: National Center for Statistics and Analysis (NCSA), FARS 2011 (ARF); Data from DOT HS 811 737 Table 1.			
Motor Vehicle Non-Fatal Traffic Crashes & Distraction Affected Crashes by Year			
Non-Fatal Crashes		Distraction-Affected	D-A Crashes Involving
Injury Crashes + PDO Crashes	Overall Crashes	Crashes	Cell Phone Use
2007	Total	1,003,000 (17%)	49,000 (5%)
2008	Total	969,000 (17%)	49,000 (5%)
2009	Total	959,000 (17%)	46,000 (5%)
2010	Total	900,000 (17%)	47,000 (5%)
2011	Total	826,000 (15%)	50,000 (6%)
Source: NCSA, GES 2007-2011; PDO - Property Damage Only; Data from DOT HS 811 737 Table 7 edited to show totals only.			
Estimated Number of People Injured in Crashes & People Injured in D-A Crashes			
Year	Overall	Distraction	
		Estimate (% of Total Injured)	Cell Phone Use (% of People Injured in Distraction-Affected Crashes)
2007	2,491,000	448,000 (18%)	24,000 (5%)
2008	2,346,000	466,000 (20%)	29,000 (6%)
2009	2,217,000	448,000 (20%)	24,000 (5%)
2010	2,239,000	416,000 (19%)	24,000 (6%)
2011	2,217,000	387,000 (17%)	21,000 (5%)
Source: NCSA, GES 2007-2011; Data from DOT HS 811 737 Table 5.			



RUMBLE STRIP SAFETY

SAFETY FACTS

- Run-off-road collisions account for 1 out of every 3 deaths and serious injuries each year (33%).
- Shoulder rumble strips provide reductions in single-vehicle run-off-road collisions from 26% to 46% on two-lane rural roads and 10% to 24% on rural freeways.
- Center-line rumble strips provide reductions in head-on and opposite directions sideswipe injury collisions of 38% to 50% on two-lane rural roads and 37% to 91% on urban two-lane roads.
- Caltrans study in 1989 regarding installations of rumble strips in both the median and right shoulder resulted in decreased drift-off-the-road collisions by approximately 49% on Interstate 5 and Interstate 40.
- Where rumble strips were installed on the right shoulder only, a 63% reduction was realized.
- 1997-1999 Caltrans study of fatal run-off road collisions involving 888 passenger vehicles, 54 fatalities were a result of drivers falling asleep.
- Rumble strips provide navigational aid in bad weather conditions such as rain, fog, and snow.



RUMBLE STRIP HISTORY

Rumble Strip History at Caltrans

- Research regarding run-off-road collisions began in the 1960's.
- 1977 - Caltrans conducts rumble strip study on test strips.
- 1989 - Caltrans completes shoulder rumble strip study on Interstate 5 and 40.
- 1999 - Caltrans Office of Traffic Safety Research conducts study on rumble strips where bicycles are allowed and consults on design selections with:
 - California Bike Advisory Committee, American League of Bicyclists, Federal Highway Administration, American Association of State Highway and Transportation Officials, and the Caltrans Rumble Strip Task Force.
- 2001 - Caltrans "Evaluation of Milled-In Rumble Strips, Rolled-in Rumble Strips and Audible Edge Stripe" Final Report.
- Goal of the research was to test a variety of rumble strips and edge treatments to determine which applications were the most acceptable to bicyclist, and still provide sufficient audible and vibratory sensations to alert automobile drivers.
- 2011 - Traffic Operations Policy Directive 11-04
- Current guidelines for installation of rumble strips.



PROJECT COLLISION HISTORY

**SCR Route 1,
Post Mile 20.41
to 30.55**

**July 1, 2001 to
June 30, 2011**

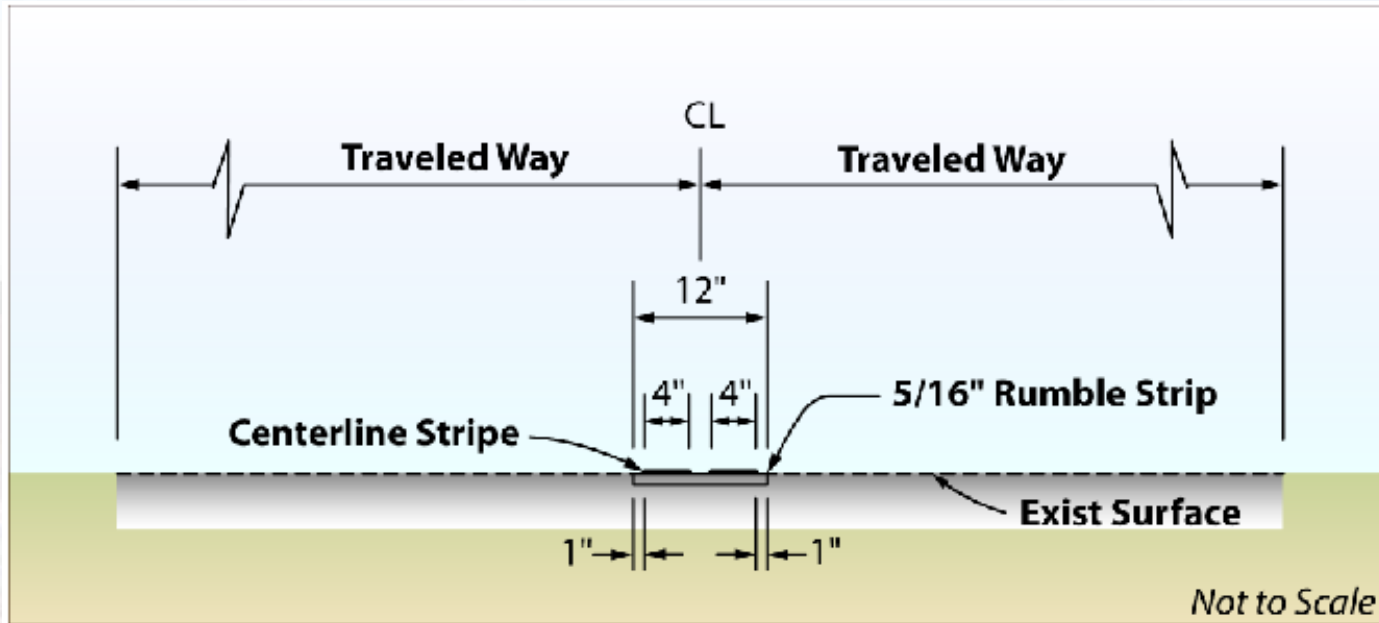
Run-Off-Road (ROR)

	TOTAL COLLISIONS	FATAL	INJURY	PDO	PERSONS		BIKES	PEDESTRIANS
					Killed	Injured		
ALL	254	11	125	118	15	232	32 (12.6%)	5 (2.0%)
ROR Right	56 (22.0 %)	2	22	32	3	34	3	0
ROR Left	23 (9.1 %)	0	12	11	0	24	1	0

Post Mile Collision Locations: Run-Off-Road to the Right

PM	REFERENCE LOCATION	PM	PM	PM			
20.40	Shaffer Road	20.41	23.58	28.60			
		20.56	23.71	28.70			
		20.79	24.00	28.89			
27.62	Bonny Doon Road	20.84	24.11	28.89			
		20.87	24.13	28.98			
		20.91	24.46	29.00			
28.62	Davenport Avenue	21.54	25.06	29.01			
		21.55	25.11	29.06			
		21.55	25.15	29.09			
28.73	Ocean Street	21.76	25.26	29.14			
		21.78	25.40	30.17			
		21.78	25.47	30.45			
28.96	Cement Plant Road	22.04	25.59				
		22.13	25.73				
		22.61	26.00				
30.07	Cement Plant Road	22.69	26.74				
		22.69	27.62				
		22.70	27.72				
30.45	Swanton Road	22.71	28.09				
		22.80	28.12				
		23.15	28.13				
		23.55	28.55				

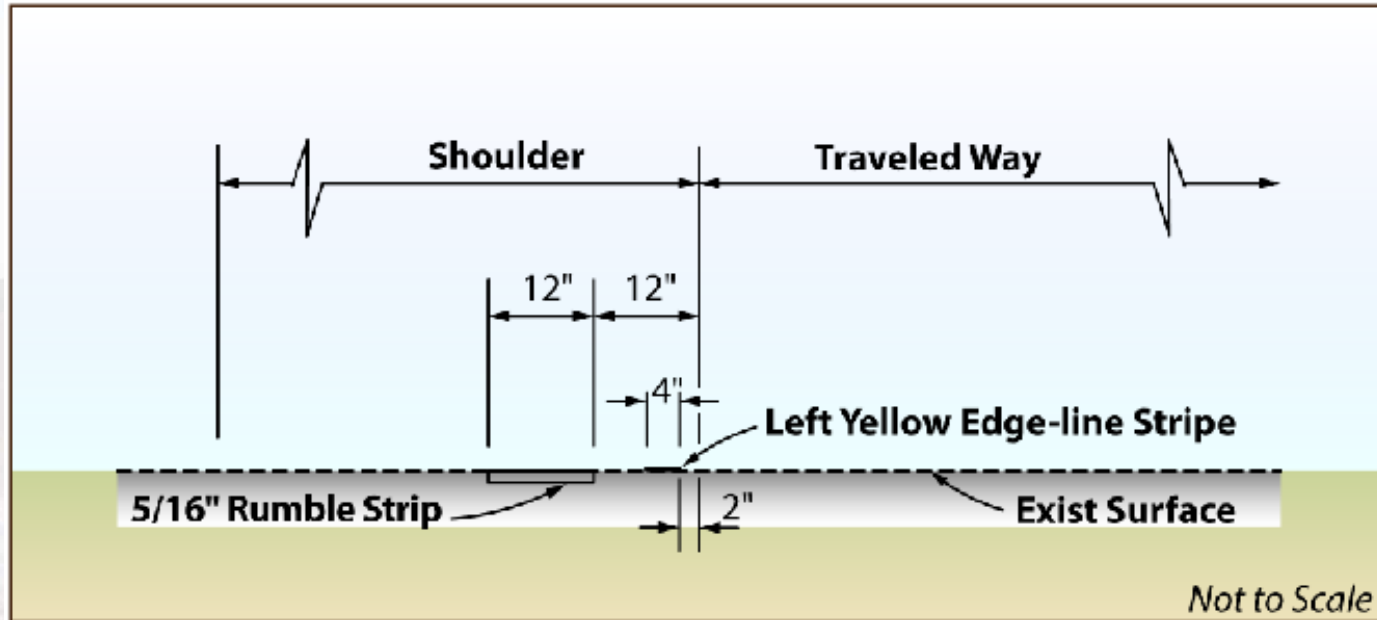
CENTERLINE RUMBLE STRIP



Two Lane Undivided Highways Between Opposing Direction of Travel



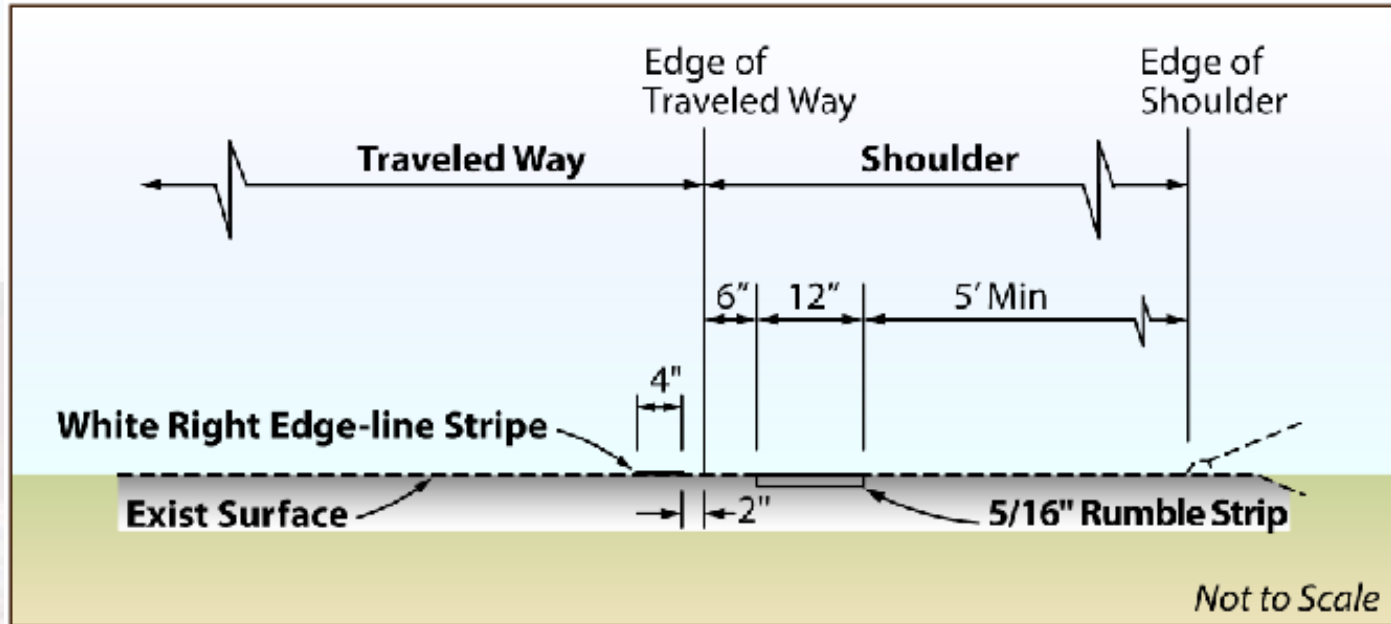
LEFT SHOULDER RUMBLE STRIP



Multi-Lane Divided Highways Left of Direction of Travel in the Shoulder



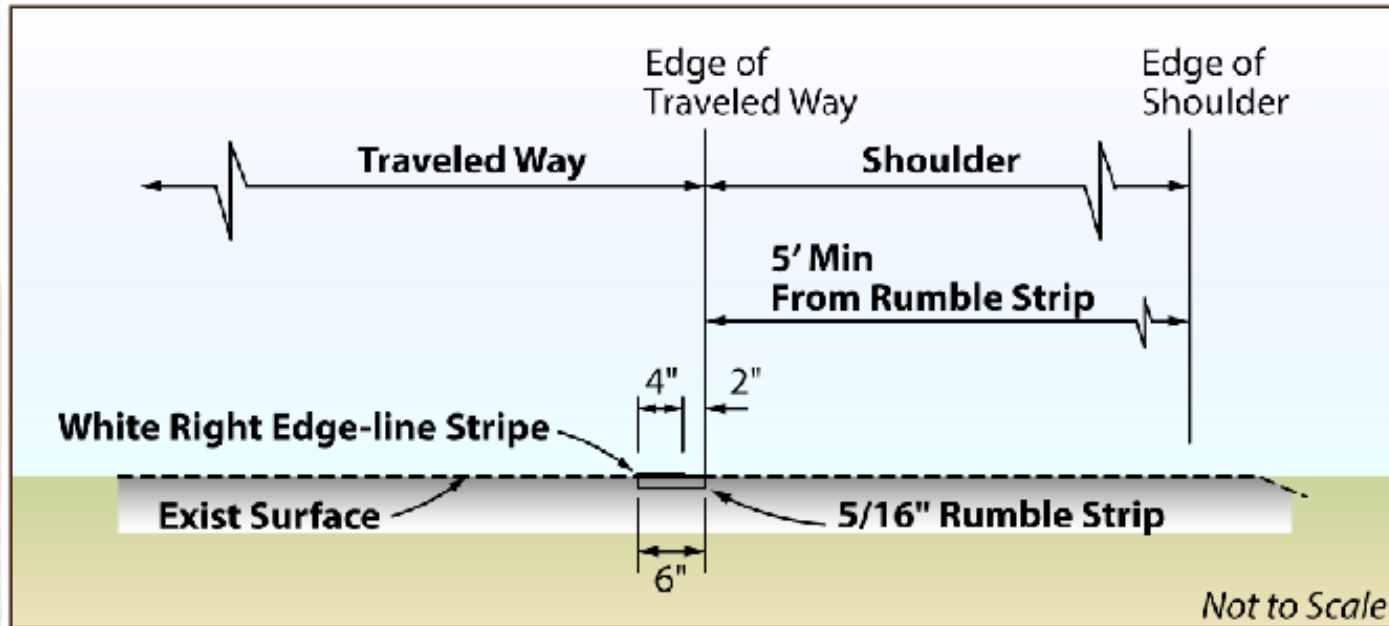
RIGHT SHOULDER RUMBLE STRIP



Right of Direction of Travel in the Shoulder



RIGHT SHOULDER RUMBLE STRIPE

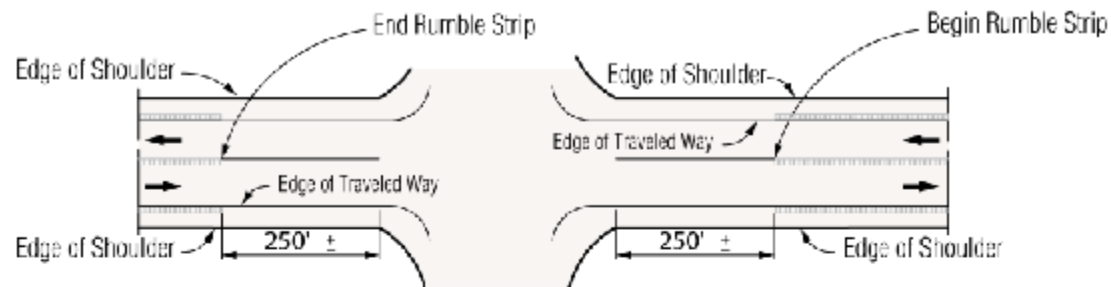


Right of Direction of Travel Underneath White Edge-line Stripe

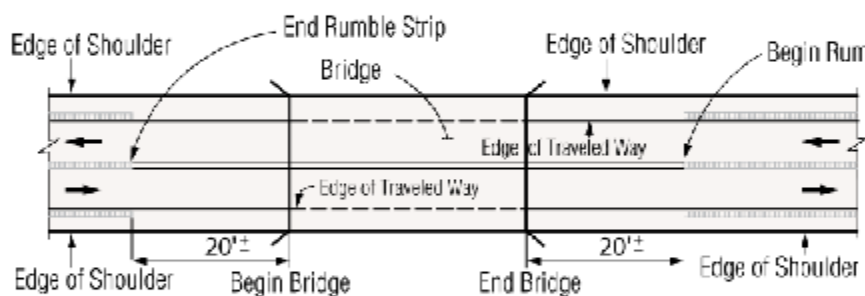


RUMBLE STRIP DETAILS

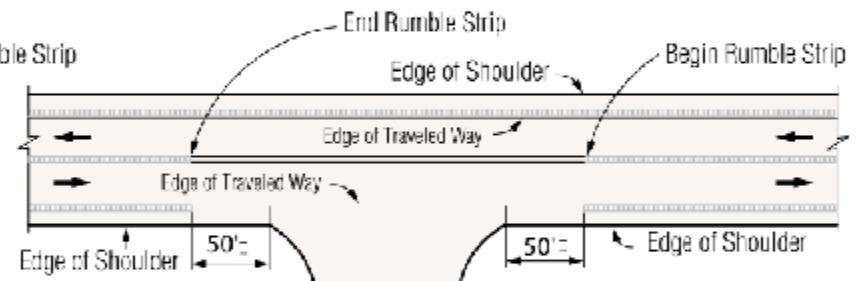
In Santa Cruz County on Route 1 from Shafter Road to Swanton Road



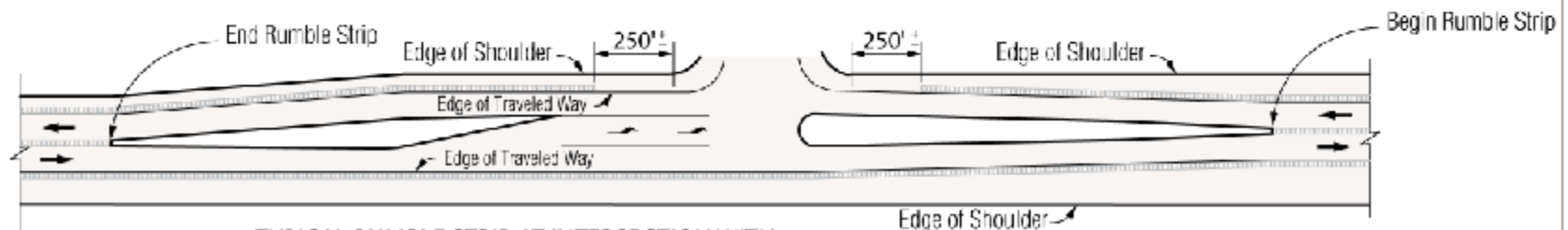
TYPICAL RUMBLE STRIP AT INTERSECTION AND DRIVEWAYS WITHOUT CHANNELIZATION



TYPICAL RUMBLE STRIP AT BRIDGES



TYPICAL RUMBLE STRIP AT FARM ACCESS ROADS



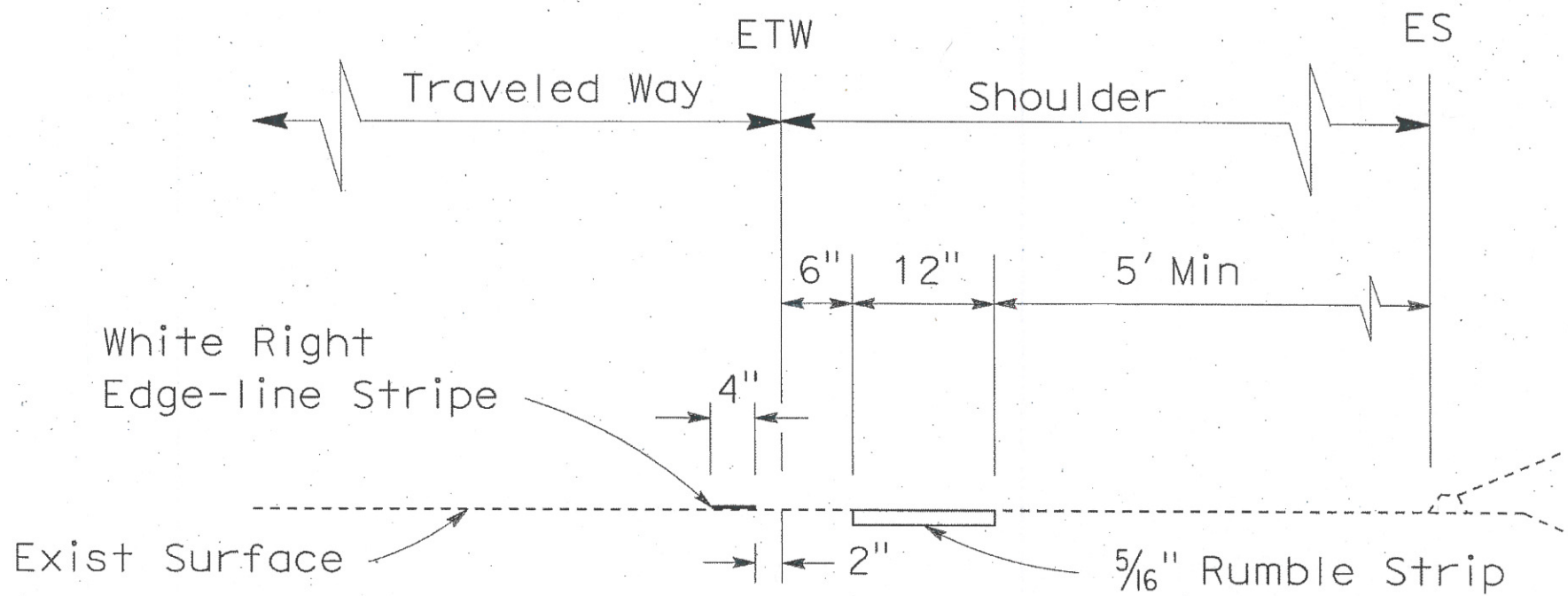
TYPICAL RUMBLE STRIP AT INTERSECTION WITH LEFT TURN CHANNELIZATION

CONCLUSION

Conclusion

- Rumble strips are to prevent run-off road collisions due to inattentive or distracted drivers.
- A significant amount of research has been conducted nationwide including Caltrans on the application of rumble strips.
- Through research and testing, the Department has taken steps to make rumble strips more accommodating for bicyclists.
- Research has shown that shoulder and center-line rumble strips when installed separately or together improve safety.
- Shoulder rumble strips can reduce severe run-off road collisions in excess of 25%.
- Center-line rumble strips can reduce cross center-line collisions in excess of 25%.
- A combination of both shoulder and centerline rumble strips can reduce collisions even further.
- Rumble strips are a low cost safety feature for our highways.

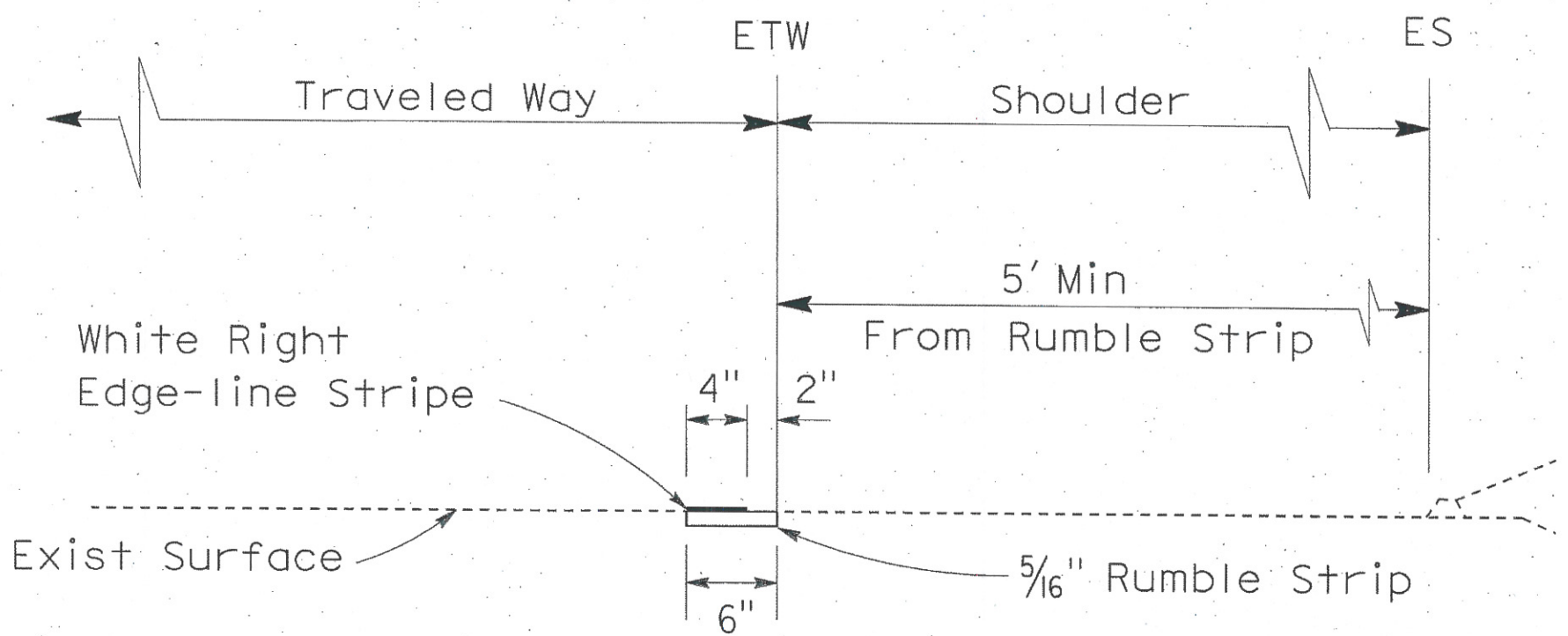
Standard Rumble Strip



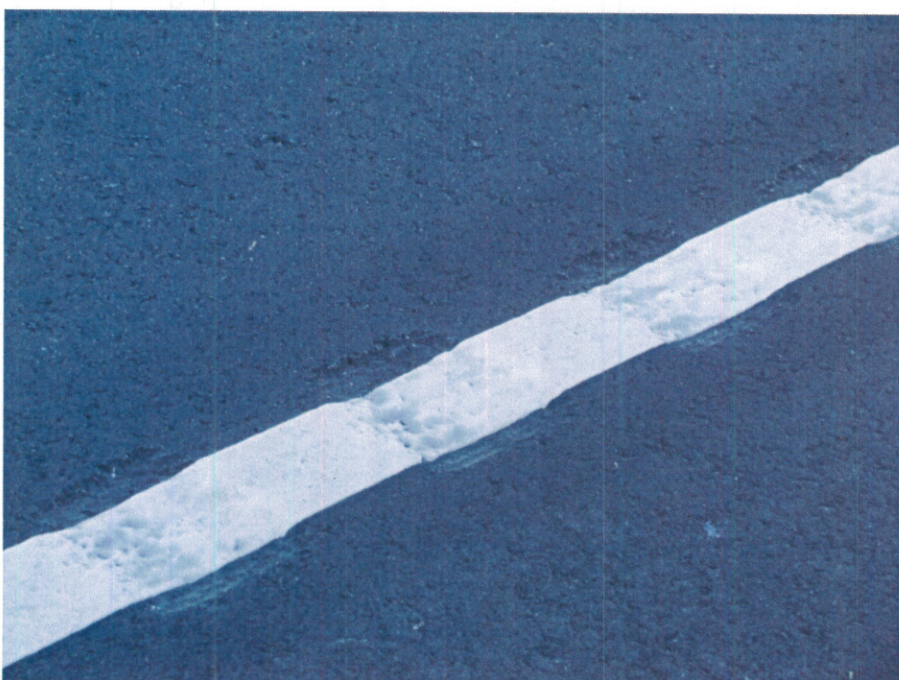
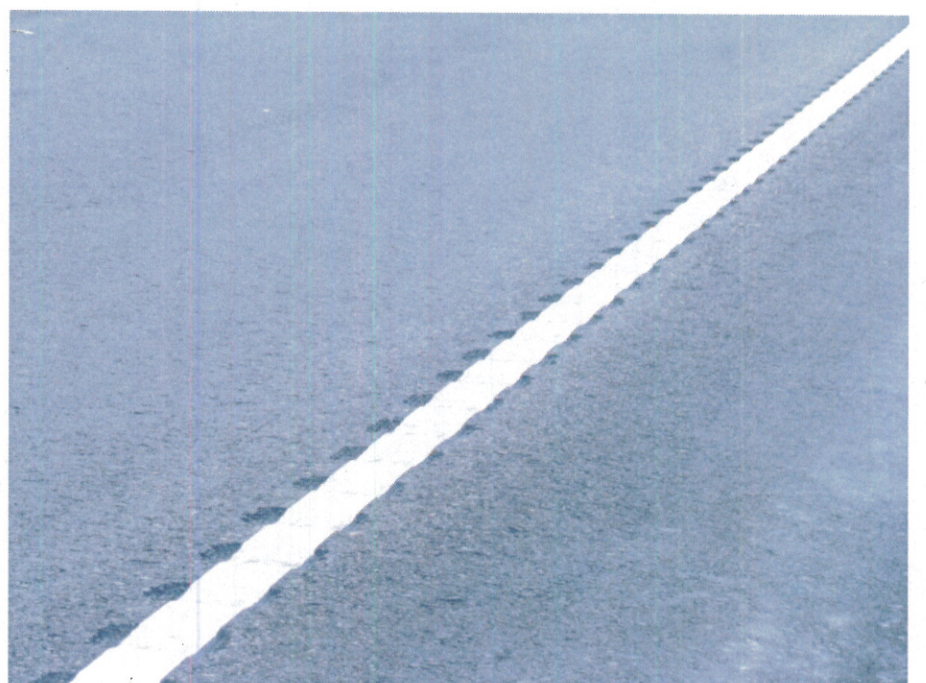
Right of Direction of Travel in the Shoulder



Alternate Rumble Strip



Right of Direction of Travel Underneath White Edge-line Stripe



STATE OF CALIFORNIA

Caltrans

DEPARTMENT OF TRANSPORTATION

06-DESIGN

FUNCTIONAL SUPERVISOR

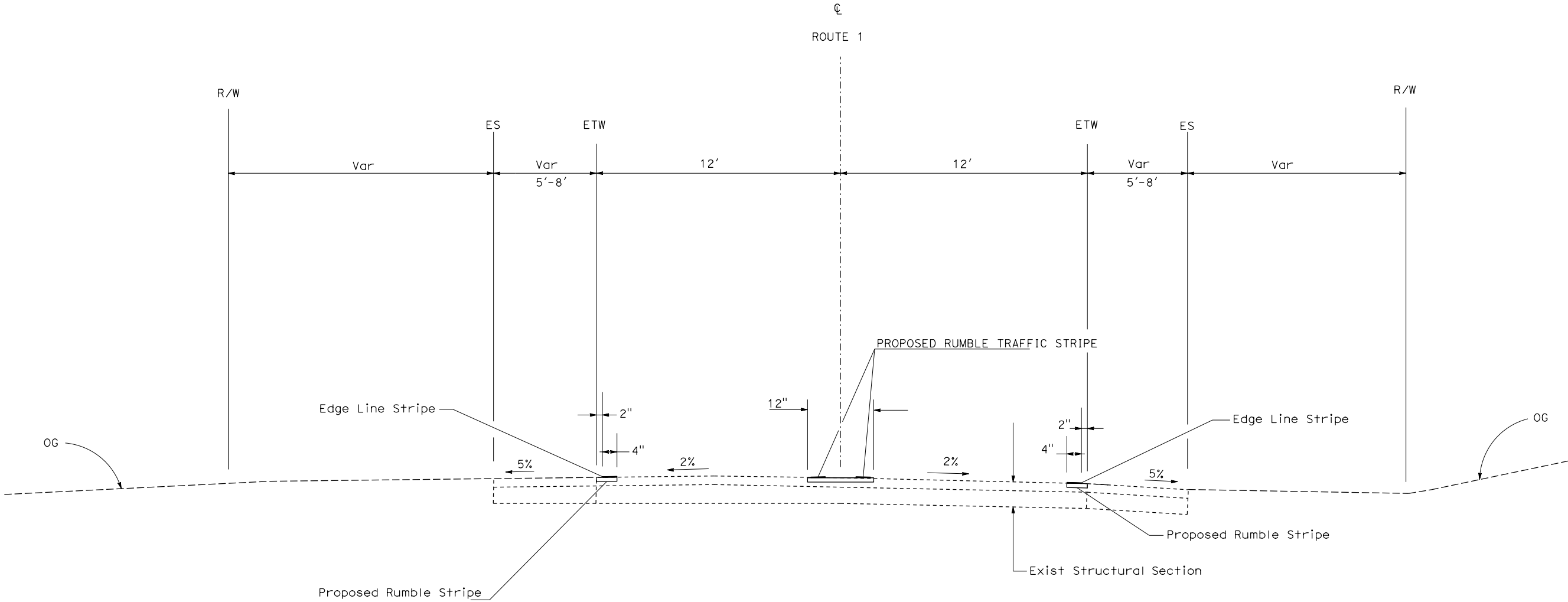
CHECKED BY

DESIGNED BY

REVISOR

DATE

1- Depth of Ground-In Rumble Stripe is 5/16".



ROUTE 1

PM 20.4 to PM 24.2

TYPICAL CROSS SECTION
X-1

NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	Scr	1	20.4/30.6		

REGISTERED CIVIL ENGINEER

DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER

No.

Exp.


CIVIL

STATE OF CALIFORNIA

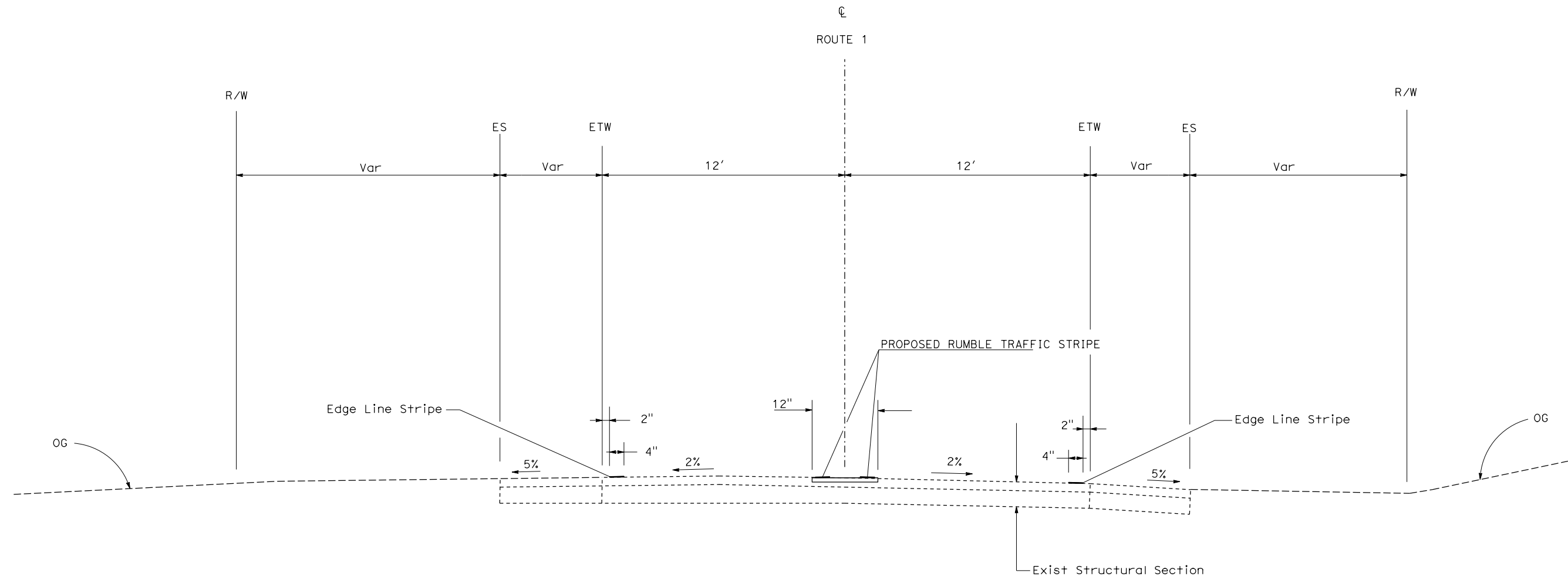
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
05	ScR	1	20.4/30.6		

REGISTERED CIVIL ENGINEER _____ DATE _____

PLANS APPROVAL DATE _____



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ROUTE 1

PM 24.2 to PM 30.6

**TYPICAL CROSS SECTION
X-2**

NO SCALE