

# Local Road Safety Training – February 24.2021

## Chat Discussion

- 00:44:34 Hillary Isebrands: Caltrans Local Assistance HSIP website - <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program>
- 01:06:58 Steve Pyburn: The effect of speed on pedestrians would also apply to bicyclists since the cyclists' own momentum may increase the severity.
- 01:20:46 Dorian Romero: has there been discussion on changing the name of refuge island as it can be triggering for folks who have had to migrate
- 01:21:23 Paul Van Dyk - Long Beach PW: In the HSIP applications, "Road Diets" are narrowly defined as 4 lanes to one lane each direction with a center turn lane and bike lanes. Is there any movement toward reclassifying "Road Diets" as any reconfiguration that eliminates a vehicle lane on a road with excess capacity or serious crashes?
- 01:21:59 Steve Pyburn: Another case study of road diets - La Jolla Boulevard. Reduced number of lanes and implemented multiple roundabouts. Results - increased safety and reduced congestion! Win win. <https://www.pps.org/article/road-diet-la-jolla-a-jewel-of-a-street>
- 01:22:15 Bill Sellin CABO: "DIET" is also a triggering word... Road Calming?
- 01:22:39 Derek Towers - City of Ventura: Road Rebalancing?
- 01:22:44 Martin Varona: Can also be called "Lane Management"
- 01:22:52 Sam Sanford: Right Sizing
- 01:22:56 Steven Mateer: i say road realignment or road right sizing
- 01:24:10 Steve Pyburn: Shared use paths can be pretty short if needed. Here is one in Truckee, CA called the Mouse Hole. It was cheaper to put in than widening the roadway bridge. [https://www.google.com/maps/@39.317301,-120.2051932,3a,75y,328.3h,89.73t/data=!3m6!1e1!3m4!1sN8i8wtwy3nBZz\\_1hgjuVQQ!2e0!7i16384!8i8192?hl=en](https://www.google.com/maps/@39.317301,-120.2051932,3a,75y,328.3h,89.73t/data=!3m6!1e1!3m4!1sN8i8wtwy3nBZz_1hgjuVQQ!2e0!7i16384!8i8192?hl=en)
- 01:25:07 Bill Sellin CABO: Door zone Bike lane - not so well defined. Buffer door zone?
- 01:25:16 Steve Pyburn: Like the alternate names for road diet....all lead to safer streets.
- 01:25:46 Paul Martin: Road Buffet (Source: Santa Ana CA)
- 01:25:57 Steve Pyburn:
- FHWA Proven Safety Countermeasures**  
<https://safety.fhwa.dot.gov/provencountermeasures/>
- NHTSA Data Visualization Tool**  
[https://explore.dot.gov/views/DV\\_FARS\\_PD/Home?:iid=1&isGuestRedirectFromVizportal=y&embed=y](https://explore.dot.gov/views/DV_FARS_PD/Home?:iid=1&isGuestRedirectFromVizportal=y&embed=y)
- Safe Transportation for Every Pedestrian (STEP)**  
[https://safety.fhwa.dot.gov/ped\\_bike/step/resources/](https://safety.fhwa.dot.gov/ped_bike/step/resources/)

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### **STEP Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations**

[https://safety.fhwa.dot.gov/ped\\_bike/step/docs/STEP\\_Guide\\_for\\_Improving\\_Ped\\_Safety\\_at\\_Unsig\\_Loc\\_3-2018\\_07\\_17-508compliant.pdf](https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf)

### **Bikeway Selection Guide**

[https://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/docs/fhwasa18077.pdf](https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf)

### **Road Diet Informational Guide**

[https://safety.fhwa.dot.gov/road\\_diets/guidance/info\\_guide/](https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/)

01:27:10 Steve Pyburn: **Intersection Safety Video:**

<https://www.youtube.com/watch?v=6B8gmCpMXMw>

01:29:51 Nancy Chen: Hi, what are some of the differences between RRFB and the PHB that makes their usage and their percent reduction of collisions different?

01:31:40 Steve Pyburn: A Road Diet is generally described as "removing travel lanes from a roadway and utilizing the space for other uses and travel modes.

[https://safety.fhwa.dot.gov/road\\_diets/guidance/info\\_guide/ch1.cfm#s11](https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/ch1.cfm#s11)

01:34:57 Dorian Romero: I prefer pedestrian island/crossing island vs. refuge island

01:35:49 Nancy Chen: Got it, thank you! Wasn't sure if the PHB was an actual stop

01:35:50 Francisco Jaime: Is there a limit as to how many consecutive intersections should have LPIs as to not back up traffic too much?

01:37:45 Paul Van Dyk - Long Beach PW: We have an HSIP project in our Cambodia town that includes the refuge median countermeasures. In all our messaging, we have been calling them "pedestrian crossing medians"

01:38:18 Fernando Velasco: How critical is it to have a vehicle space between crosswalks and a mini roundabout? Is this space necessary on residential streets? This can be a big difference in the cost and parking loss.

01:38:25 Nadia Geesman: If an intersection meets the warrants for a PHB, but a City implements RRFB as an intermittent stage to reduce crashes at a high ped crossing, is there a required amount of time Caltrans requires the RRFB to be implemented first before the PHB can be installed. Or can it be installed as soon as the City completes the EIR/design plans and bid process?

01:40:49 Hillary Isebrands: NCHRP 674 has shown the yielding rates at multi-lane roundabout crosswalks very similar for PHBs and raised crosswalks.

01:42:50 Hillary Isebrands: The City of San Diego has a LPI implementation program that may be of interest to some of you. The contacts are Julio Fuentes and Phil Rust.

01:52:02 Steve Pyburn: Nadi Geesman, I can't see why a certain amount of time would be needed to switch to a PHB. I can see some people may get used to the RRFB, and then be surprised by the PHB, but that could happen when just installing the PHB even without the RRFB. I have seen

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agencies post signs in advance of an action, like STOP SIGNS TO BE INSTALLED 6/1/2021. This can help the public prepare for the transition to a new traffic control.

01:52:57      Mauricio Castaneda:      That is the plan. My co-worker and I are creating a folder with all this great information you all are providing us to share it with our traffic department.

02:04:33      Jonathan Raspa:      The Port of Long Beach recently used a high friction treatment to reduce incidents of trucks sliding along a long downslope during wet conditions; it completely eliminated crashes in the project area.

02:05:54      Nadia Geesman:      how long does high friction surface treatment typically last?

02:06:23      Cheryl Lea:      Regarding friction treatments, can it be installed in key locations (such as curved areas) as opposed to the entire roadway? Would this be more efficient and cost effective? Has that been done or could be considered?

02:07:02      Ken Kochevar:      If done with full automation, we are seeing between 8 - 10 years for cycle length.

02:07:57      Ken Kochevar:      Cheryl, Yes, it is more site specific versus along the whole corridor as it is not a cheap product.

02:11:44      Bill Sellin CABO: Rumble Strips can RUIN a safe shoulder for cycling (ie PCH / Pacific Coast Bike Route ~ future USBR 95 - in Orange County.) Rumble STRIPES are much better option where we KNOW cyclists are riding.

02:11:55      Jason Farag:      Is the new standard for Rumble Strips a CA MUTCD Standard or a Caltrans HDM Standard?

02:19:02      Jenny Yu:      do bike lanes count as a part of the clear zone?

02:24:51      Ken Kochevar:      Good point Bill. Bicyclists should always be considered when installing rumble strips or stripes!

02:27:01      Ken Kochevar:      Jenny, I would say bike lanes are part of the shoulder so I would not include it in the CRZ (starting from the outside of the paved shoulder).

02:27:29      Jenny Yu:      that's good to know, thanks for the clarification!

02:29:34      Zoubir Ouadah: you did not make note of the wider edge line, 6" instead of 4"

02:30:02      Ken Kochevar:      Zoubir, Yes, the wider edge line is another countermeasure that is being introduced. CRFs for increasing the edgeline from 4" - 6" show anywhere from a 17% - 36% decrease in crashes on 2 lane rural roadways.

02:31:44      Steve Pham:      What is the Clear Recovery Zone for SCE power poles along highway? Is it considered discretionary object as mentioned in HDM that required minimum 52' from edge of travel way?

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- 02:33:28 Tracy Coan: [https://safety.fhwa.dot.gov/local\\_rural/tribal/Local\\_Rural\\_Local\\_Road\\_Virtual\\_Trade\\_Show.pdf](https://safety.fhwa.dot.gov/local_rural/tribal/Local_Rural_Local_Road_Virtual_Trade_Show.pdf)
- 02:34:46 Tracy Coan: [https://safety.fhwa.dot.gov/roadway\\_dept/](https://safety.fhwa.dot.gov/roadway_dept/)
- 02:36:19 Steve Pyburn: Rumble strips are not a MUTCD standard. Robert mentioned Caltrans' new Ruble Strip guide. They are also included in Caltrans Standard Plans.
- 02:38:32 Steve Pyburn: While we wait, any agencies opposed to roundabouts?
- 02:39:33 Robert Wong: Commenting Period for revision to MUTCD extended until
- 02:40:08 Christian Malpica: Hi Steve and Robert...I am the current chairman for the City Traffic Engineers Association here in the Southern California and I might reach out to you for information gathering...thanks...cmalpica@diamondbarca.gov.Chris.
- 02:40:14 Robert Wong: Commenting Period for revision to MUTCD extended until May 14, 2021
- 02:41:08 Steve Pyburn: Christian, feel free. My email is steve.pyburn@dot.gov
- 02:41:08 Robert Peterson: Yes, to answer Cheryl's question, HFST can be installed in very short segments, one or two lanes, etc because it is very thin treatment(calcined bauxite aggregate and epoxy) onto the pavement surface, whether it be concrete or AC. It won't affect roadway draining at all.
- 02:41:40 Tran Tran: Depends on the application Steve. From my experience, it seems when there is a heavy concentration of pedestrian activity (say a school crossing) and conflicting turning movements then it is not necessarily a good combination. I think the other issue is the maintenance aspect of a roundabout, what happens when a utility needs to do preventative improvements to their lines...it sometimes requires the entire roundabout to be shut down to accommodate, which creates a different issue with traffic management.
- 02:44:16 Tran Tran: I've also discussed the implementation of RRFB's at the pedestrian crossings at the roundabout to address heavier pedestrian movements. The other issue is the requirement for larger design vehicles to traverse through the roundabout and how that changes the widths, center island, etc., which ends up making it easier for standard vehicles to speed through the roundabout if they see it clear.
- 02:44:25 Steve Pyburn: Tran, good points. There are lots of case studies of roundabouts near schools. Yes, utility work can affect the intersection, especially if the work is under the center circle. It is likely this is pretty unusual. Your comment does highlight the benefit of keeping utility vaults out of intersections in general.
- 02:47:05 Steve Pyburn: Tran, there are lots of design resources that address designing for larger vehicles while maintaining appropriate speeds "fastest path" design for passenger vehicles. Kansas State University hosts a roundabout listserve where these topics are discussed in detail by roundabout design experts.
- 02:52:56 Robert Peterson: Answering the question of how long HFST last, studies are showing that if placed according to HFST specifications and proper pavement preparation, it can last 8 to

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12 years. Local HSIP uses 10 years for a design life in the b/c calculation. Here is a good FHWA FAQ link that is a great resource to learn more about HFST.

[https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/pdfs/fhwa-cai-14-019\\_faqs\\_hfst\\_mar2014\\_508.pdf](https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/pdfs/fhwa-cai-14-019_faqs_hfst_mar2014_508.pdf)

02:55:59 Paul Van Dyk - Long Beach PW: These are also very helpful for colorblind people at night by making it clear whether the top, middle, or bottom indicator is lit

02:56:17 Zoubir Ouadah: Can I use white reflective tape instead of yellow for backplate signal ?

02:56:30 Steve Pyburn: A few years ago, Caltrans studied the reduction of fatal crashes at roundabouts on state highways. They found a 100% reduction in fatal crashes at those locations.

02:56:44 Ruth Smith: What factors indicate the use of reflective backplates?

02:57:06 Robert Peterson: One thing to note on roadway reconfiguration aka, road diets is before coming to Local HSIP for funding, make sure you have considered the local community impacts in making the change. We have had several projects that were canceled because of the pushback.

02:57:48 Steve Pyburn: There are no "warrants for reflective back plates. They make the signal head more visible, especially at night, and indicate the location of a signal head during power outages.

02:57:53 Hillary Isebrands: In regards to roundabouts near schools, we estimate that there are over 500 roundabouts near/at schools - ranging from isolated roundabout to roundabout corridors leading to schools (elementary, middle, high schools and colleges). If anyone needs examples of locations, please let us know.

02:59:42 Bill Sellin CABO-D12 / OCBC: Consider ALL RED signal phase and length of time it gets a cyclist '8-10 years old' to make it across the intersection

02:59:46 Steve Pyburn: National roundabout data shows a total of just eight bike and ped fatalities at all intersections in the US!

02:59:50 Robert Peterson: Retroreflective borders on signals is now a Caltrans standard and is being installed on new and existing traffic signals on state highway.

03:00:42 Steve Pyburn: All red intervals are certainly beneficial. My city requires them at all signals

03:00:49 Zoubir Ouadah: If the yellow change signal interval is so critical to signalized intersection safety, why Caltrans signal staff did not want to work with CTCDC Yellow Interval Task Force to change the 3 seconds for left turn signal phase when they were asked?

03:00:58 Bill Sellin CABO-D12 / OCBC: Ho does RCUT help cyclists on the main route?

03:01:06 John DiNunzio: We are looking at RCUTs in San Luis Obispo

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03:02:13 Hillary Isebrands: Caltrans and FHWA have worked with the California Trucking Association and Farm Bureau as well as local trucking companies in many of the Districts to address not only common design vehicles but also over-sized over-weight vehicles. Please let us know if you have specific locations or challenges with designing roundabouts for large vehicles while maintaining the slow speeds for other users or providing education related to large trucks.

03:02:37 Miriam Jim: Thanks Robert. Good to know about retroreflective borders. Is the retroreflective border requirement in the latest Caltrans Std Plans and Specs? Thanks.

03:03:23 Ken Kochevar: Ruth, I don't know that I've seen factors on the use of incorporating Backplates with retroreflective borders. This is such a low-cost PSC that it is being done at all locations. I would say if you have any remote or single intersections, it would probably be more applicable.

03:03:27 Bill Sellin CABO-D12 / OCBC: See how it saves motorists, but does not seem to address or consider impact to cyclists having to deal with exit merge & free right turns, and making a merge to left turn lane & U turn to get routed to a road heading left...

03:06:21 Steve Pyburn: **Proven Safety Countermeasures**

<https://safety.fhwa.dot.gov/provencountermeasures/>

### **FHWA Intersection Safety Case Study**

[https://safety.fhwa.dot.gov/intersection/innovative/roundabouts/case\\_studies/fhwasa09013/](https://safety.fhwa.dot.gov/intersection/innovative/roundabouts/case_studies/fhwasa09013/)

### **Guidelines for Timing Yellow and All-Red Intervals at Signalized Intersections (NCHRP Report 731)**

<http://www.trb.org/Publications/Blurbs/168017.aspx>

### **FHWA Traffic Signal Timing Manual**

<https://ops.fhwa.dot.gov/publications/fhwahop08024/chapter4.htm#4.5>

### **Restricted Crossing U-Turn Intersection**

[https://safety.fhwa.dot.gov/intersection/alter\\_design/pdf/fhwasa14070\\_rcut\\_infoguide.pdf](https://safety.fhwa.dot.gov/intersection/alter_design/pdf/fhwasa14070_rcut_infoguide.pdf)

03:06:25 Robert Peterson: Yes, retroreflective borders should be in the latest Standard Plans and Specs. If not, they will be in the next edition. I have contacts if you need this information.

03:07:20 Bill Sellin CABO-D12 / OCBC: RCUT

03:07:42 John DiNunzio: now that RCUT's are a CA safety counter measure will they be added to the ICE process?

03:08:12 Bill Sellin CABO-D12 / OCBC: Address RCUT impact to cyclists?

03:09:15 Joel Bareng: In addition to retro-reflective backplates, good to consider battery back-up for continued signal operation. Hydrogen fuel cell technology allows for at least 4 days of continued run time during longer periods of power shutdowns.

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- 03:10:25 Mauricio Castaneda: If funds are restricted, I believe a painted roundabout/traffic circle might work!
- 03:10:46 Steve Pyburn: John, it is my understanding you can add any intersection treatment to the ICE Process.
- 03:12:40 Bill Sellin CABO-D12 / OCBC: ...or more than benefits - seems to increase hazards...
- 03:13:54 Steve Pyburn: John, I will follow-up with Caltrans design regarding the ICE process.
- 03:14:42 Bill Sellin CABO-D12 / OCBC: If being considered on Pacific Coast Bike Route or other USBR where cyclists are riding, the exit and are rights need complete streets conflict marking, and see no details on how to go left crossing an RCUT if must merge across to left turn & U - turn across fast lanes to reach crosswalk street.
- 03:21:38 Zoubir Ouadah: LPI also improve corner sight distance for ped.
- 03:22:26 Maria Bhatti: Good point Zoubir. Thanks for sharing that.
- 03:27:38 Hossein Ajideh: Can you provide a link to your specs for high friction surface treatment?
- 03:29:28 Michael Greer: How do maintenance operations engineers feel about HFST? I have heard of similar issues with spalling to OGFC.
- 03:34:56 Virpi Kuukka-Ruotsalainen: I would like more information on retroreflective borders.
- 03:35:46 Bill Sellin CABO-D12 / OCBC: Thank you everyone for all you do - and for keeping vulnerable road users (especially cyclists) in mind when ever you improve the roads! Thank you for letting me participate for the morning -
- 03:36:26 Hillary Isebrands: Here is a link to all of the current FHWA proven safety countermeasures that will provide general details on many of the topics we are covering today as well as links to additional information. <https://safety.fhwa.dot.gov/provencountermeasures/>
- 03:39:32 Steve Pyburn: Virpi, you can find more information on retro-reflective backplates at <https://safety.fhwa.dot.gov/provencountermeasures/blackplate/>
- 05:12:26 Steven Mateer: Are adopted LRSP going to be required for grant funds like HSIP and ATP?
- 05:13:38 Cheryl Lea: Once the LRSP is developed, when is the timeframe for updating it? 3 years? 5 years?
- 05:15:11 Tracy Coan: <https://safety.fhwa.dot.gov/LRSPDIY/>
- 05:16:27 Sam Sanford: As the LRSP program matures what will be the expectation for agencies to look back at the effectiveness of prior plans/projects and incorporate that into subsequent LRSPs?

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05:16:40 Scott Johnson: For California will the LRSP need to be adopted via resolution by the jurisdictional governing body to be eligible for future grant funding. Our City has an adopted Vision Zero action plan, and we were planning on adjusting that to meet the LRSP requirements

05:18:22 Mauricio Castaneda: We applied for the LRSP grant approximately four weeks ago. Can you please provide a specific link where we can check if the grant is awarded?

05:27:55 Robert Peterson: LRSP will be required in order to eligible for HSIP grant funds. There is no requirement for ATP grant funds.

05:29:17 Zoubir Ouadah: Should we start incorporation vehicle technology into the LSRP?

05:34:20 Richard Chin: If an LRSP study has already been started without LRSP funds from Caltrans (study was started before Caltrans replenished funds in late-2020), can an agency still apply for LRSP funds to reimburse tasks completed and/or fund remaining tasks?

05:34:29 Jacqui Swartz: What would you consider to be the main or major differences between an LRSP vs a Vision Zero Plan? Any specifics? From my research they are very similar.

05:40:16 Jonathan Raspa: Ken, what about advanced detection systems (computer vision, ped detection, etc.) that would support both safety improvement and continued data collection for evaluation?

05:41:33 Ken Kochevar: Jonathan, yes, advanced detection systems is technology that can be considered to be incorporated into a LRSP if appropriate.

05:43:21 Patricia Chen: Steven Mateer, it seems like having a good LSRP in place would also assist in getting points in the ATP, as well.

06:19:52 Krys Saldivar: What's worrisome about these audits is the liability faces if the city does not address "problems/issues identified" and incorporate recommended solutions due to lack of funds and resources. An accident occurs and a claim is made that cites the audit recommended fixes that were not made. Unless the audit and resulting report are properly worded, it can really open the city to great liability.

06:22:22 Ken Kochevar: Krys, you are not the first local agency we've heard this from. 23 U.S.C. § 409 ("Section 409") was enacted to address this concern. Please go to Caltrans DLA website to view the fact sheet we developed on this for some sample wording.

06:49:41 Hillary Isebrands: Just a follow up to my mention of the City of San Diego this morning with the implementation of the LPI. As mentioned, you can contact Phil Rust - prust@sandiego.gov and here is a link to the City of SD "Systemic Safety: THE DATA-DRIVEN PATH TO VISION ZERO" Plan - <https://www.sandiego.gov/sites/default/files/systemic-safety-the-data-driven-path-to-vision-zero.pdf>

06:53:45 Mario Ingrassi: City of Chula Vista is working on LRSP. Not ready yet.

06:57:51 Hillary Isebrands: Thank you Mario, we look forward to seeing it in the future.



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- 07:21:02 Lisa Woung: I have seen a collision predictive model that uses AI but only in a research setting.
- 07:23:15 Steve Pyburn: The point that of Highway Safety Manual is to estimate likelihood of crashes based on a baseline condition.
- 07:25:14 Tracy Coan: Here is the link to the evaluation:  
[https://csus.co1.qualtrics.com/jfe/form/SV\\_0ima154TQUwRQKW](https://csus.co1.qualtrics.com/jfe/form/SV_0ima154TQUwRQKW)
- 07:25:46 Tracy Coan: Please complete the evaluation before logging off.
- 07:28:34 Courtney Armusewicz: Hi so sorry - did I hear correctly that the BCR cut off was 12?
- 07:29:12 Courtney Armusewicz: (for HSIP Cycle 10 applications)
- 07:31:48 Robert Peterson: Yes, 12.0 was the cutoff. We received 429 applications,
- 07:32:17 Nicole Spann: Do you know when HSIP Cycle 10 awards will be released?
- 07:35:37 Robert Peterson: Hopefully early next month.
- 07:35:48 Veronica Medina: When will the list of funded LRSP projects be updated on Caltrans website?
- 07:36:09 Hillary Isebrands: Here is a link to the **FHWA Systemic Safety informational video** - How Healthy is your Road System? -  
<https://www.youtube.com/watch?v=iGIFGvxmoiQ&feature=youtu.be>
- 07:39:58 Robert Peterson: Our Local HSIP website posts all the agencies that have received funds for LRSPs and SSARs. You can contact me if any questions.