

Local Road Safety Training – March 10,2021 Chat Discussion

- 00:31:04 Silver Sinang: Orange County Public Works
- 00:31:45 Sara Sundquist: Public health
- 00:32:56 Joe Siemers: Joe Siemers, MGE Engineering, Good Morning!
- 00:41:32 Shawn Knapp, Town of Moraga: Are these total pedestrian fatalities or are they normalized for populations?
- 00:42:02 Ken Kochevar: Shawn, these are total pedestrian fatality numbers.
- 00:57:27 Tyler deBoer: Unexpected, I would think there would be fewer pedestrians in the colder months
- 00:59:15 John Everett: Lighting, or lack thereof, is a major factor in ped accidents. In winter there are shorter days.
- 00:59:58 Luisa Zavala: The size of vehicles just seems to keep getting bigger too. Trucks and SUV's have very large front ends that doesn't help I am sure.
- 01:01:19 Matt Gertz - LADOT: What radius from the actual intersection is classified as the intersection area? Say 25 feet, 50 feet?
- 01:03:23 Brianna Goodman: Can you provide more detail on the Parallel Vehicular Green Extension Interval?
- 01:03:27 Matt Gertz - LADOT: Curious why bicyclist fatalities took place mostly not at intersections
- 01:09:09 Tracy Coan: @Steve Pyburn writes: The intersection influence area is longer on the approach side than the departure side. Certainly, the radius of the round corner is a good rule of thumb. Peds are a little farther away from the cross street in a roundabout, so, there is some variability of where the "intersection" is. Some possible reasons for higher mid-block bike crashes: Less lighting, cyclists riding the wrong direction. Cyclist failure to yield to cars. Coding errors on crash reports. Run off-road onto the shoulder by cars. Cyclist wearing dark clothes, not having light or reflectors. Cyclists not wearing helmets (leads to fatal and sever crashes).
- 01:12:31 Mitch Megas: Has there been issues with cars stopping at the dark signal head at a PHB and getting rear ended?
- 01:13:47 Phil Vassion: Yes, we have one in Placer County and we have seen vehicles stop at the dark signal on more than a few occasions, but no rear-ends so far.
- 01:15:14 Mitch Megas: We were thinking about using one but were concerned with vehicles getting rear ended. The street we were looking at has I high speed limit.
- 01:15:20 Anne Thomas: How do we include safety for people on bikes at these mid-block crossings? We don't want to force people to ride in the marked area with pedestrians. But we must know that people on bikes and with scooters are also using these crossings.

01:15:23 Steve Pyburn: Have not heard of widespread problems with people stopping at dark signals. They may stop if they see a ped, waiting to cross even if the PHB is not activated.

01:16:42 Steve Pyburn: The trade off in using the PHB is the risk for peds being hit vs a rear end crash. If it is the first PHB in the area, an outreach campaign would be helpful.

01:18:02 Alia Awwad: Since PHBs are roughly similar in cost to pedestrian signals, and both don't have to be coordinated with nearby signals, is the main reason PHBs are recommended over ped signals the fact that they require less warrants? If so, have there been conversations about PHBs if the new MUTCD was to eliminate these warrants?

01:18:06 Ken Kochevar: Anne, I would think bikes and scooters can use mid-block crossing also for protection. Shouldn't they be walking them cross the roadway which would solve the problem?

01:19:59 Steve Pyburn: Mixing peds, bikes and scooters is a common issue. In one regard, it is a good problem to have. You could use signage to or contrasting pavement marking (lime green area within the crosswalk) for bikes.

01:23:10 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

Safe Transportation for Every Pedestrian (STEP)

https://safety.fhwa.dot.gov/ped_bike/step/resources/

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

Bikeway Selection Guide

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/

01:25:22 Steve Pyburn: The FHWA notes the following: "PHBs are useful in locations where traditional crosswalk signings and markings do not result in adequate motorist yielding rates, and where the deployment or cost of a full traffic signal would not be warranted. This includes mid-block crossings or uncontrolled mainline crossing points." (link below) FHWA is currently taking comments on an update to the MUTCD, so it's a good time to make comments on warrants.

https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa14014/

01:25:34 Mikki McDaniel: Is there any guidance on how close a raised crosswalk can be placed with respect to the nearest driveway?

01:25:53 Tyler deBoer: The NHTSA Data Visualization Tool doesn't appear to load for me, can anyone confirm if they have the same issue?

01:26:02 Matt Gertz - LADOT: Same here @Tyler

01:26:35 Tyler deBoer: Thanks for the confirmation

01:27:49 Anne Thomas: Thank you - yes, I would like to see an example design that provides safe crossing for people on wheels.

01:29:07 Anne Thomas: Yeah - I don't think it's realistic to expect all people on bikes or scooters to walk

01:29:59 Diane Overland: is bike lane adjacent to curb or adjacent to moving travel p

01:30:32 Jorge Renteria: Has there been any studies on posting odd speed limits, 27MPH instead of 30MPH, knowing that drivers will still go higher, but catching the eyes of the drivers?

01:32:14 Hillary Isebrands: @ Alia A - PHBs and signals have different volume warrants in the current MUTCD and engineering judgement is also important in determining a preferred alternative for a safe and efficient crossing.

01:32:26 Rob Olson: Is there any data on driver comprehension of what to do at a PHB on higher speed roads since it is harder to post legible signs at higher speeds? We have one on a 45mph road and drivers cannot seem to read the signs early enough to properly react.

01:35:03 Steve Pyburn: A bike lane could be adjacent to the curb, or between parked cars and a travelled lane. It is defined as a lane dedicated to serving bicycles, although many locations and state laws require scooters to use them also.

01:39:52 Hillary Isebrands: @ Rob Olson - Do you have the PHBs on overhead mast arms with supplemental signing on the mast arm? Many agencies have done public education campaigns with the addition of PHB's as Steve mentioned as well as added supplemental signing on side mounted poles and overhead mast arms next to signal heads.

01:41:06 Steve Pyburn: NHTSA took about a minute to load at this link:
https://explore.dot.gov/views/DV_FARS_PD/Home?:isGuestRedirectFromVizportal=y&:embed=y

01:43:46 Stan Hill: How can a local community have the speed limit reduced on a federal highway running through the community (U.S, Highway 50 through South Lake Tahoe)?

01:44:52 Steve Pyburn: Diana, there are trade-offs with locating the bike lane on the curb side of the parked cars, or on the traffic side. In short, bikes are protected from moving cars when next to the curb, but may be more visible at intersections if on the traffic side. FHWA has a planning guide at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm

01:46:19 Anne Thomas: How to get access to these slides later? (I think you mentioned and I've forgotten)

01:47:53 Ken Kochevar: Anne, all slides, recording and the chat will be sent out through a link on Caltrans DLA website.

01:51:03 Phil Vassion: Is the reduction consistent for all speeds? Is it effective for higher speed roadways?

01:51:44 Steve Pyburn: Stan, that is a tough question to answer. There has been at least one comprehensive safety study for that corridor. Discussing this issue with elected officials, the city manager, public works, and Caltrans may have some effect. I know there have been "squeaky wheels" on other traffic issues on that area. I believe Caltrans actually sets the speed limits.

02:09:57 Anne Thomas: Data shows so many cars leaving the roadway on two-lane rural roadways that connect our towns and cities. And wider shoulders make wider lanes that lead to increased driving speeds. And the treatments on shoulders for friction cause trouble for people walking and biking. So, my question: Will we soon have design options for people walking and biking other than the shoulder spaces on these roadways that connect our towns? I realize we are all working to find solutions - It would be good to recognize the safety challenges and find other options besides having people walk and ride in a shoulder along fast traffic where we know so many vehicles enter.

02:10:31 Fong Vue: Traversable slopes -- how wide is desirable?

02:15:01 Ken Kochevar: Vue, I think every situation is different. Speed, number of vehicles and CRZ definitely have to be considered. I would hesitate to say, but add again, the wider you go with the resources you have the more room and time it gives the driver to recover.

02:18:38 Ken Kochevar: Another countermeasure to consider that is low cost is a edge line or wider edge line. Studies show an increase from 4" to 6" edge line has a CRF of 17.5% on a 2 - lane rural roadways for all crash types and a 36.5% CRF for 2 - lane roadways for F + I crash per Park CMF ID 4736 and 4737.

02:22:14 Hillary Isebrands: Follow up on some of the PHB conversation from earlier - Here are two links to some good resources on PHBs.

<https://www.fhwa.dot.gov/publications/research/safety/16039/16039.pdf> and

<https://www.phoenix.gov/streets/safety-topics/hawk-pedestrian-beacon-information>

02:23:12 Tracy Coan: Local/Rural/Tribal Resources VIRTUAL Booth

https://safety.fhwa.dot.gov/local_rural/tribal/Local_Rural_Local_Road_Virtual_Trade_Show.pdf

02:24:19 Tracy Coan: Roadway Departure Safety Webpage:

https://safety.fhwa.dot.gov/roadway_dept

02:41:59 Steve Pyburn: The NHTSA Data Visualization Link posted earlier appears to be working. It does take a while to load, though. Here it is again.

02:42:29 Steve Pyburn: NHTSA link

https://explore.dot.gov/views/DV_FARS_PD/Home?iid=1&isGuestRedirectFromVizportal=y&embed=y

02:45:36 Steve Pyburn: Additional Intx Links

La Jolla Boulevard case study for road diet that included roundabouts to reduce delay and improve safety.

<https://www.pps.org/article/road-diet-la-jolla-a-jewel-of-a-street>

02:46:36 Hillary Isebrands: @ Stan Hill - CalSTA did a series of workshops in 2019 for the "Zero Traffic Fatalities Task Force." Workshop 3 focused on speed limits, speed management and speed enforcement. Here is the link to that ongoing effort that may be helpful regarding your question on speed limits. <https://calsta.ca.gov/subject-areas/enforcement-and-safety/zero-traffic-fatalities>

02:50:21 Steve Pyburn: All that kinetic energy has to go somewhere in a crash. People are not good at absorbing energy!

02:53:56 Steve Pyburn: FHWA Proven Safety Countermeasures

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

02:54:45 Steve Pyburn: National data shows only 8 ped and bike fatalities at all roundabouts in the US. Total!

02:56:03 Steve Pyburn: The City of Roseville has been adding the borders at a number of locations.

02:56:51 Steve Pyburn: Caltrans has adopted the retroreflective backplates as a standard.

02:59:00 Steve Pyburn: ITE recently published an update to its YCI guidelines.

02:59:24 Lu Li: is this only on YCI instead of yellow+all red?

03:01:07 Steve Pyburn: Diverging diamond interchanges also reduce vehicle conflicts and simplify signal timing. More info here: <https://safety.fhwa.dot.gov/intersection/innovative/crossover/>

03:01:22 Steve Pyburn: Yes, yellow only.

03:04:46 Steve Pyburn: In 2016, Caltrans did a before and after study of crashes of roundabouts on state highways. At that time, they found a 100% reduction in Fatal and Serious Injury crashes and 67% reduction of total crashes.

03:05:05 Matt Gertz - LADOT: Are any of these treatments really feasible in dense urban areas with constrained roadways?

03:07:21 Steve Pyburn: R-CUT and MUT may not be the best approach for urban areas. They are well-suited for intersection on divided high-speed roads. Roundabouts can work well in urban areas, as can diverging diamond interchanges.

03:07:23 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/

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

FHWA Safety website

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

La Jolla Boulevard case study for road diet that included roundabouts to reduce delay and improve safety.

<https://www.pps.org/article/road-diet-la-jolla-a-jewel-of-a-street>

03:09:14 Ken Kochevar: All, Regarding Backplates with Retroreflective Borders, Caltrans is getting ready to release a letter to the locals on a memo to "Expand the use of retroreflective backplates by promoting Caltrans retroreflective backplate policy" as a SHSP action. If things go well, I would expect this to be sent out over the next month. This memo is another resource that includes construction details, standard specs and authorized materials list.

03:10:34 patricia preston: How about high-speed rural roads with low visibility? Standard condition for the Central Valley region and an argument against roundabouts. Any countermeasure recommendations?

03:21:19 Darryl Brown: Yep, Agreed... careful after you go above 1 to 1.5 seconds of "All Red" clearance... folks get "crazy"...my 2 cents...

03:21:30 George Hicks: Are there any pedestrian crossing conflicts with vehicles at roundabouts?

03:21:57 Steve Pyburn: One study that included red-intervals
http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP03-95_FR.pdf

04:46:18 Anne Thomas: Yes. A culture of safety. My grandfather was killed in a highway crash, plunging his wife and young children into a life of poverty and hardship, the legacy of which continued to my life.

04:48:21 Ken Kochevar: Sorry to hear that Anne. Hopefully through trainings like this and others we can change the safety culture so less and less families have to go through this.

04:48:30 Tracy Coan: Local Road Safety Plan Video:
<https://www.youtube.com/watch?v=Wzdm798Mol8>

04:55:10 Prashanth Dullu: Which cities have completed the LRSP

04:55:40 Brianna Goodman: Are the LRSPs typically done at the county level? What about the RTPA level?

04:58:14 Ken Kochevar: Brianna, Yes, LRSP are done at the county level. Robert and I have worked with 5 of them in the pilot. They were Nevada, Yolo, Marin, Humboldt and Trinity. They all have completed a LRSP to a certain extent. I'm sure there are others too. Not sure about the RTPAs.

04:58:39 Anne Thomas: Shasta Lake City just completed theirs, approved by city council in jan

05:03:41 Jose Ostdiek: City of Folsom is in the process right now, they have a draft plan available here: <https://www.folsomcitysafestreets.com/>

05:15:12 Evelyn Espinosa: Can you share a link for that video?

05:18:36 Hillary Isebrands: @Evelyn - last video played - https://www.youtube.com/watch?v=V_apdVeEbQ4

05:24:28 Rod Brown: Brianna, Mendocino COG is an example, just starting, of an agency coordinating development of LRSPs for multiple cities and the county

05:25:00 Hillary Isebrands: LRSP DIY website - <https://safety.fhwa.dot.gov/LRSPDIY/index.cfm>

05:31:49 Bob Delp: I know the focus is on road design, but can someone speak to the important of traffic law enforcement in an LRSP?

05:36:33 Bob Delp: Thank you. Very helpful and I like the idea of looking at 911 data.

06:24:02 Tracy Coan: RSA Resource: https://safety.fhwa.dot.gov/provencountermeasures/road_safety_audit/

06:24:37 Josh Pilachowski: Line of sight, vertical/horizontal curve

06:24:38 Luis Hernandez:Rocks really close to the road, maybe clear them and add a shoulder?

06:24:41 Chuck Taylor: limited sight distance intersection prewarning signage,

06:25:03 Frank Barrera: lack of warning signs

06:25:06 patricia preston: move that driveway.

06:25:08 Josh Pilachowski: warning signage and chevrons

06:25:17 Luis Hernandez:chevrons

06:25:28 Josh Pilachowski: add a mirror?

06:25:28 Jorge Renteria: is there room for an acceleration lane for the "T" right turn?

06:25:58 Jose Ostdiek: Add flashing beacons

06:26:03 Denise Zitnik: rumble strips

06:46:12 Jose Ostdiek: How do those rumble strips improve safety for cyclists?

06:48:28 Sonia Hernandez: Any before & after data regarding transverse rumble strips on rural roads as you approach curves.

06:56:21 Ken Kochevar: Jose, that is a good question. Not being sarcastic, I would say that if there is a paved shoulder and we have rumble strips or stripes and the vehicle exits at a shallow angle, the driver could be alerted to their roadway departure and correct back into their lane before departing all the way onto the paved shoulder and hitting a bicyclist. Overall, we have to balance vehicular and bicyclist travel. We should be including the perspective view of bicyclists especially when there is a great number of them on a route. We should also be including gaps in the rumble strips so they can move in and out where needed. We should make sure that shoulder is cleared periodically of debris so they can use the paved shoulder. Again, there is no one answer that is going to be satisfactory to all players, but there are clearly better solutions than others.

07:07:13 Ken Kochevar: Sonia, I don't know of any before and after data regarding transverse rumble strips on rural roads as you approach curves. I have seen them when approaching an intersection and believe I've seen examples of what you are describing, but don't know where I've seen that. I will look later today to see if I can find anything and if so I will put this in the "scrubbed chat" that we send out on Caltrans DLA website.

07:15:21 Hillary Isebrands: @ Sonia - Here is a couple of links that mention transverse rumble and grooves on curves.
https://safety.fhwa.dot.gov/roadway_dept/horicurves/fhwas07002/fhwas07002.pdf and
https://safety.fhwa.dot.gov/roadway_dept/countermeasures/horicurves/fhwas15084/fhwas15084rev011720_508_FINAL.pdf