# FAQ: Webinar: Safe Transportation for Every Pedestrian (STEP) May 12, 2021

1. **Question: Can you loan out counters to non-profit pedestrian advocacy orgs?**

*Answer: We are able to loan to Local Public Agencies, in support of active transportation projects.*

2. **Question: Does data include Active Transportation modeling?**

*Answer: ATRC Presentation Response: Regarding the Bicycle Introductory Training Courses, the 1-day and the self-paced are essentially equivalent. The benefit to the 1-day is that there is a live instructor to ask questions to and you are able to interact with other participants in the class. The benefit to the self-paced course is that you can take it anytime. ATRC Presentation Response: We loan counters to local government agencies. Advocacy organizations can use them if they work with the local agency.*

3. **Question: Do you consider the type of vehicle and the height of the hood? How can we promote safety standards for people outside the vehicle?**

*Answer: The type of vehicle is considered. The systemic approach is based on roadway features. The Systemic program specifically looks at the SHS.*
*Peter's response: NHTSA is the agency that regulates vehicle design and this issue has been brought out in some recent reports regarding SUV's. NHTSA would be the best agency to address this question; however, for roadway design speed is one of the critical elements if a pedestrian survives.*

4. **Question: Is this Pedestrian Systemic Safety tool looking just at State roads?**

*Answer: No, the Systemic Approach for pedestrian safety can be used on all roadways, not just State roads. NCHRP 893 Systemic Pedestrian Safety Analysis has 4 case studies and Case study 1 is from the City of Seattle*

5. **Question: How does the push to legalize 'Jaywalking' fit into these numbers? Is there concern that legalized 'Jaywalking' will further increase ped fatalities?**

*Answer: I am not aware there was a push to legalize "Jaywalking" Many people think that people crossing the roadway outside of a crosswalk is illegal or jaywalking, however California Code regarding pedestrians crossing outside of a crosswalk Law section (ca.gov) allows for pedestrians to cross it's just that they need to yield to the vehicles, other than locations with adjacent intersections. Law section (ca.gov)*

6. **Question: Define jaywalking, please**

*Answer: according to Merriam Webster Dictionary "the act of crossing a street in an illegal, careless, or unsafe manner" See response to prior question regarding Jaywalking. Also, interesting and educational video regarding Jaywalking. https://www.youtube.com/watch?v=vxopfjXkArM*

7. **Question: Can you speak to safety considerations for midblock crosswalks? Does sight distance (hills and curves) prevents placing cross walk at an intersection?**

*Answer: Designers should follow their agencies Design Resources, which have guidance or requirements for both horizontal and vertical sight distance. If crosswalk placement, due to most desirable walking path line, is on a hill or curve, advance indications like a supplemental RRFB prior to the RRFB at the crosswalk could be used.*

8. **Question: Please post the link to the Spectacular 7 countermeasure fact sheets, if possible.**

*Answer: Link to Spectacular 7: https://safety.fhwa.dot.gov/ped_bike/step/*

9. **Comment: My question concerns a pedestrian walking through the intersection directly in front of a vehicle that has a green light to go through the intersection. Bicyclists also tend to do this at a green light.**

*Response: I'm wondering if this question is connected to the one earlier about green at a signalized intersection. Yes, according to CA Code there is responsibility on both the driver and pedestrian. Pedestrians can't just walk in front of a vehicle and expect them to stop, especially on a green light where the vehicle has the right of way. Yes, there are those types of pedestrians, but we can't group all pedestrians into this category and say agencies shouldn't do anything since there are many improvements that could be made. Something else to consider is how many pedestrians are displaying bad behavior and is there a reason why. Are the signal cycles too long? Are the push buttons working? We should look at the reasons behind the behavior.*

10. **Question: What funding programs are available to implement improvements such as Road Diets pre-emptively (i.e. where there has not been a significant number of crashes)? The HSIP requires collisions to have occurred for the B/C ratio calculation. Doesn't this somewhat contradict the "pre-emptive" approach?**

*Answer: Well it depends on how dramatically an agency wants to change the roadway while doing a Road Diet. If it's only restriping then staying ahead of an agency's resurfacing projects by a year or two can allow for the design and public involvement to all take place to get buy in, then there isn't a need for a special funding source. For federal funding here is a link that may be helpful.*
*https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm*

11. **Question: Was there a statistical difference between Continental and Bar Pair crosswalks? Or just between those two and Transverse?**

Answer: The systemic approach allows implementation of safety countermeasures/treatments irrespective of historical crash numbers. (Rather) the focus crash type, risk factors, and network locations determine where treatments are employed. The systemic approach allows implementation of safety countermeasures/treatments irrespective of historical crash numbers.
Peter's Response: See conclusions of study below, link provided
Crosswalk Marking Field Visibility Study - FHWA-HRT-10-067 (dot.gov)

The conclusions from this study are as follows:

- **The detection distances to continental and bar pairs are statistically similar. The detection distances to continental and bar pairs are statistically different from transverse markings.**
- For the existing midblock locations, a general observation is that the continental marking was detected at about twice the distance upstream as the transverse marking during daytime conditions. This increase in distance reflects 8 s of increased awareness of the crossing for a 30-mi/h operating speed.
- The results of the appearance ratings of the markings on a scale of A to F mirrored the findings from the detection distance evaluation. Participants preferred the continental and bar pairs markings over the transverse markings.
- Participants gave the continental and bar pairs markings similar ratings during both the day and night. However, the transverse marking ratings differed based on the light level. The participants gave slightly better ratings, although still worse than continental or bar pairs markings, for transverse markings during the nighttime as compared to the daytime. The lower ratings during daylight conditions could be due to sun glare or shadow issues mentioned by the participants.

12. **Comment: There's been a lot of quick-build projects across CA to shorten curb radii with temporary curb extensions using paint and vertical delineators (plastic bollards), curious how effective these have been for both pedestrians knowing how to use vs. vehicles slowing while turning**

*Response: Not aware of a study to measure effectiveness, but I do know from testimonials from participants in workshops and presentations made from cities like NYC, if designed correctly they are effective. Paint alone can work, depending on the part of the country and how drivers comply, but adding a vertical component really helps with getting the proper driver behaviors.*

13. **Comment: If you don't have the collisions somewhere, you're not going to get a competitive B/C ratio. The systemic approach is not necessarily feasible for a Road Diet, as these are mostly location specific. Risk factors may be there, but collisions are not.**

*Response: True, a Road Diet does not lend itself to a systemic warrant process. Nor do I think a competitive B/c analysis can be commensurate with a systemic program like a traditional (reactive) program allows*

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14. **Question: What requirements are there about when a cross walk should be marked and when is fine to not mark?**

*Answer: No Federal requirements. In the MUTCD it states in Section 3B.18 Crosswalk Markings, "08 Crosswalk lines should not be used indiscriminately. An engineering study should be performed before a marked crosswalk is installed at a location away from a traffic control signal or an approach controlled by a STOP or YIELD sign. The engineering study should consider the number of lanes, the presence of a median, the distance from adjacent signalized intersections, the pedestrian volumes and delays, the average daily traffic (ADT), the posted or statutory speed limit or 85th-percentile speed, the geometry of the location, the possible consolidation of multiple crossing points, the availability of street lighting, and other appropriate factors. State and Local agencies may have their own guidelines or possibly standards. Agencies often look at crash data, requests from public, Pedestrian Networks, Pedestrian safety action plans, systemic analysis to pedestrian safety risk factors, etc…*

15. **Question: Good information regarding vehicle design and features that reduce pedestrian crash fatalities and injuries.**

*Answer: This would be a good question addressed to our sister agency NHTSA who regulates vehicle design. Personally, I hope more automated detection and braking technology will be incorporated into vehicles.*

16. **Question: How do we address concerns from 911 agencies regarding the placement of mid-block pedestrian refuges in Two-Way Left Turn Lanes? They claim the refuges would decrease emergency response times.**

*Answer: On some roads the emergency response times will not be affected while on others there may be an increase. Increase response times will be affected by how many are being installed and the road profile. Therefore, concerns could be addressed by placing temporary islands or using delineators to outline a refuge island and running some tests. Depending on the roadway width, parking situation, how many lanes there are, and ADT it may or may not influence response times.*

17. **Question: On a two-lane road where these are installed, is there guidance on when you should use back to back signs/beacons in both directions?**

*Answer: Having an RRFB on both sides of the roadway is a requirement so using back to back could be used. I don't know of any guidance or requirements that say you have to do it that way.*

*Peter's response: Currently agencies need to follow Interim Approval 21 "For any approach on which RRFBs are used to supplement post-mounted signs, at least two W11-2, S1-1, or W11-15 crossing warning signs (each with an RRFB unit and a W16-7P plaque) shall be installed at the crosswalk, one on the right-hand side of the roadway and one on the left-hand side of the roadway. On a divided highway, the left-hand side assembly should be installed on the median, if practical, rather than on the far left-hand side of the highway."*
*https://mutcd.fhwa.dot.gov/resources/interim_approval/ia21/index.htm*
*State and local agencies might have guidance on when to use back to back but IA-21 does not.*

18. **Question: Were the RRFB yielding rate studies consistent across vehicle traffic speeds? E.g. possibly different yield rate increases at 20MPH vs 30MPH**

*Answer: The majority of the posted speed limits in the Florida study was 35mph*

| Location of Crosswalk | Number of Lanes | Median Present | Traffic Flow | ADT | Posted Speed Limit (mi/h) |
|---|---|---|---|---|---|
| **Florida** | | | | | |
| 31st Street and 54th Avenue S | 4 | Yes | Two-way | 9,600 | 35 |
| 4th Street and 18th Avenue S | 4 | Yes | Two-way | 17,657 | 35 |
| 22d Avenue N and 7th Street | 4 | Yes | Two-way | 13,524 | 35 |
| 9th Avenue N and 26th Street | 4 | No | Two-way | 12,723 | 35 |
| 22d Avenue N and 5th Street | 4 | Yes | Two-way | 18,367 | 35 |
| Martin Luther King Street and 15th Avenue S | 5 | Yes | Two-way | 12,025 | 35 |
| Martin Luther King Street and 17th Avenue N | 5 | No | Two-way | 14,336 | 35 |
| 1st Avenue N and 13th Street | 3 | No | One-way | 9,715 | 30 |
| 9th Avenue N and 25th Street | 4 | No | Two-way | 12,723 | 35 |
| 1st Street and 37th Avenue N | 4 | Yes | Two-way | 6,216 | 35 |
| 58th Street and 3d Avenue N | 4 | Yes | Two-way | 13,826 | 35 |
| Central Avenue and 61st Street | 4 | No | Two-way | 12,742 | 40 |
| 1st Avenue S and 61st Street | 3 | No | One-way | 12,742 | 35 |
| 1st Avenue N and 61st Street | 4 | No | One-way | 9,128 | 35 |
| 83d Avenue N and Macoma Drive | 2 | No | Two-way | 4,774 | 35 |
| 9th Avenue N and 45th Street | 4 | No | Two-way | 9,343 | 35 |
| 22d Avenue S and 23d Street | 4 | No | Two-way | 9,343 | 35 |
| 62d Avenue S and 21st Street | 3 | No | Two-way | 5,008 | 35 |
| 9th Avenue N and 31st Street | 4 | No | Two-way | 11,982 | 35 |

19. **Question: How strictly are folks sticking to warrants for the Hybrid Beacons? We seem many more of them in areas that don't appear to meet the warrants.**

*Answer: The MUTCD provides **guidance** on the PHB **not** warrants. The PHB was developed so there would be a positive STOP condition for pedestrians to cross higher speed multilane high ADT roadways that don't meet Signal warrants. Most roadways that PHB's should be installed on are roadways that people only cross when they absolutely have to, so using actually pedestrian volumes may not be the best measure to determine if a PHB should be installed. Latent demand should be considered. This can be done by talking with people in the area/neighborhood. Good comparison is a bridge over a river, what is the traffic volume before the bridge get put in?*

20. **Questions: Have any studies been conducted to assess the possibility of driver confusion when the PHB is "blank" (dark)?**

*Answer: No studies that I know of but much talk from agencies and even the national committee on MUTCD. **Peter's response:** Not studies that I'm aware of but of all the different states and cities I've traveled to giving workshops (hundreds), I've only heard of it being an issue in two locations.*


21. **Question: Are RRFB's suitable for a 4-lane roadway with a center two-way left turn lane with a 40 MPH posted speed and 27k AADT/2,700 peak hour?**

*Answer: Looking at Table 1 in the Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations it would not be recommended. A PHB is.*
*https://safety.fhwa.dot.gov/ped_bike/step/docs/STEP_Guide_for_Improving_Ped_Safety_at_Unsig_Loc_3-2018_07_17-508compliant.pdf*

22. **Question: When should 2-stage crossings be considered?**

*Answer: Assuming the question is in regard to 2 stage pedestrian push buttons controlled. Crossing wide roadway with multiple lanes, high number of pedestrians (would use offset design for more room for pedestrians to wait), wide and long median. Transit stops or origin destinations that are offset. Some examples from Arizona are mentioned in the public roads article.*
*https://www.fhwa.dot.gov/publications/publicroads/12septoct/04.cfm*

23. **Question: Does the LPI only get activated when a pedestrian pushes the button? Otherwise the LPI stays dormant?**

*Answer: Can be programmed to be push button activated only and stay dormant otherwise or it can also be programmed to come on for every cycle; using downtowns.*

24. **Question: Leading vs lagging left turn phase?**

*Answer: Whether Protected only or protected-permitted or permitted-protected, LPI always starts up in conjunction with main street throughs. Therefore, can work with leading and lagging left turn phases.*

25. **Question: How do we address concerns from fire and police departments regarding placement of pedestrian refuges in the center 2-way left turn lane impeding emergency response? Also, there were similar concerns expressed regarding evacuation during emergencies.**

*Answer: Response from similar question asked earlier. On some roads the emergency response times will not be affected while on others there may be an increase. Increase response times will be affected by how many are being installed and the road profile. Therefore, concerns could be addressed by placing temporary islands or using delineators to outline a refuge island and running*

*some tests. Depending on the roadway width, parking situation, how many lanes there are, and ADT it may or may not influence response times.*

26. **Question: Not sure if this was covered, but are there good funding streams for these measures?**

*Answer: At the Federal level here is a good resource link.*
*https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm*

27. **Question: Did you discuss any safety measures on ped crossings at roundabouts?**

*Answer: Single lane roundabouts for pedestrians are great if designed properly. Key principles are slow entry and exit. Splitter islands (which are similar to refuge islands). Multilane roundabouts are a bit more challenging, especially for the visually impaired, due to the multiple threat situation, therefore the draft PROWAG (Public Right of Way Guidelines) states there should be an RRFB PHB or Signal at the crosswalk locations. Overall roundabouts are safer for pedestrians compared to conventional intersections due to few conflict points.*

# Resource Page

- https://www.youtube.com/watch?v=ZfdbeecfiJo
- Link to Spectacular 7: https://safety.fhwa.dot.gov/ped_bike/step/
- Vehicle design and features that reduce pedestrian crash fatalities and injuries: https://www.gao.gov/assets/gao-20-419.pdf
- https://dot.ca.gov/-/media/dot-media/programs/design/documents/dib82-06-a11y.pdf
- STEP website https://safety.fhwa.dot.gov/ped_bike/step/resources/
- FHWA interim approvals in California: https://dot.ca.gov/programs/safety-programs/camutcd/interim
- PHB video link https://www.youtube.com/watch?v=7tyniC5DixE
- LPI video https://www.youtube.com/watch?v=BWzUkpgngGo&t=14s
- San Diego is using LPIs with blank out signs, feel free to reach out prust@sandiego.gov
- http://www.stop4aidan.org/
- Two webinars on ADA design guides in the fall 2021. Please be sure to subscribe to the ATRC mailing list/LTAP mailing list.
    - LTAP: https://apps.cce.csus.edu/sites/cce/reg/?CID=1636
    - ATRC: https://apps.cce.csus.edu/sites/cce/reg/?CID=2086